Men-at-Arms

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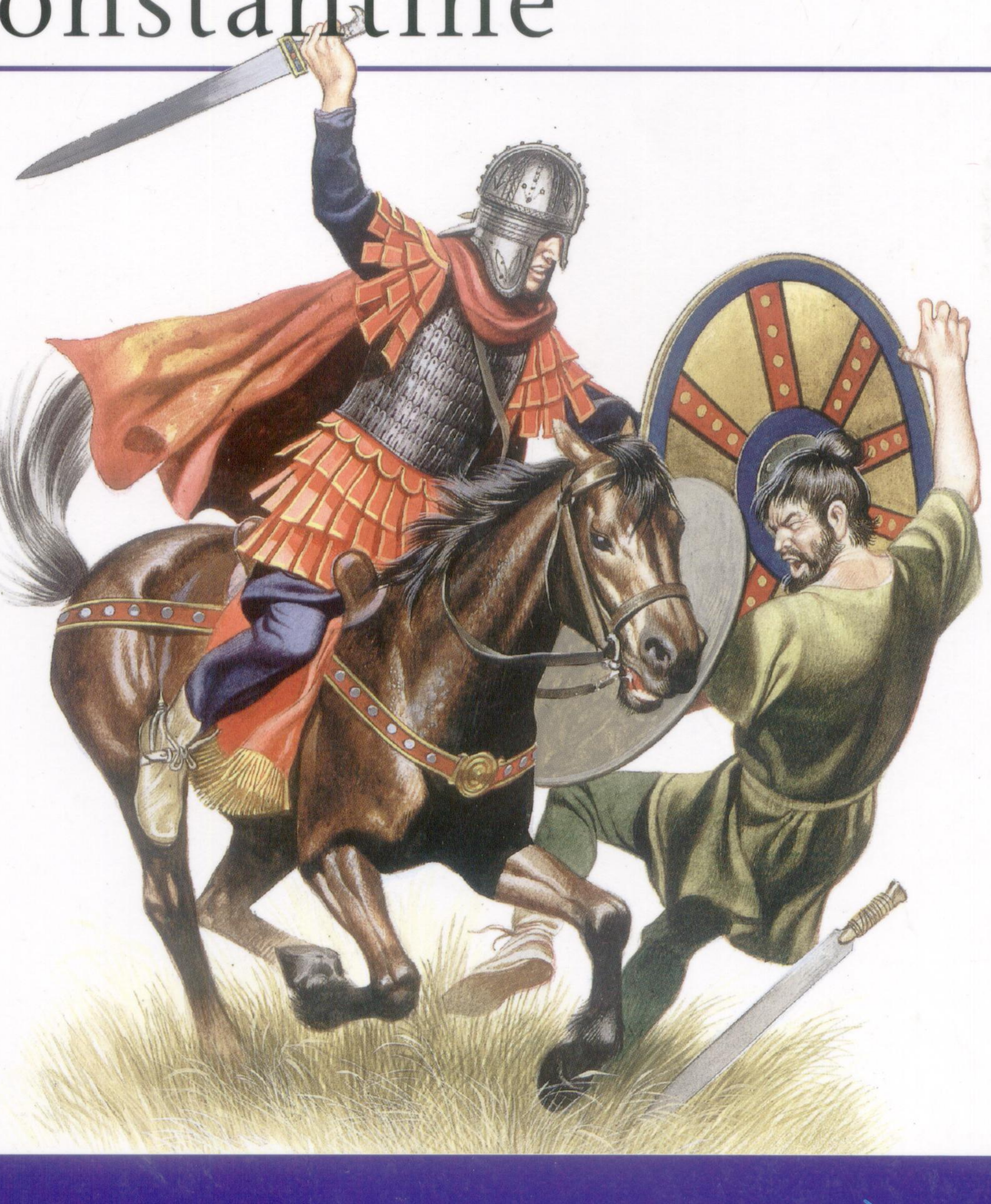
The Roman Army from Hadrian to Constantine



Michael Simkins • Illustrated by Ronald Embleton

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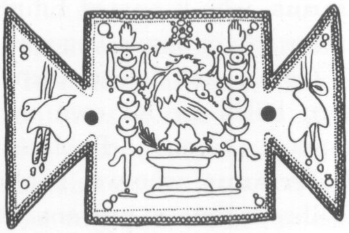
B. Dobson and D. J. Breeze:
The Building of Hadrian's Wall (1972)
H. R. Robinson:
What the Soldiers wore on Hadrian's Wall (1976)
J. Augusta: *Prehistoric Man* (1960)
H. Klumbach:
Römische Helme aus Niedergermanien (1974)
H. Bullinger: *Spätantike Gürtelbeschläge*—
Dissertationes Archaeologicae Gandenses
(Brugge 1969)
P. Dixon: *Barbarian Europe* (1976)
R. P. Wright and E. J. Phillips: *Roman Inscribed and Sculptured Stones in Carlisle Museum* (1975)
B. Dobson and D. J. Breeze:
The Army of Hadrian's Wall (1972)
Charles Daniels:
Mithras and His Temples on the Wall (1967)
Robin Birley: *Hadrian's Wall—Central Sector* (1972)
A. R. Birley: *Hadrian's Wall* (1966)
D. J. Smith: *Hadrian's Wall in Models* (1969)
E. Martin Burgess: *The Mail-maker's Technique*—
the Antiquaries Journal Volume XXXIII

The Roman Army from Hadrian to Constantine

Chronology



A.D. 117: Marcus Ulpius **Trajanus** dies at the age of sixty-five and is succeeded by his nephew, Publius Aelius **Hadrianus.** Hadrianus's reign saw extensive building works, both civil and military, including the construction of the great defence work in northern Britain known as Hadrian's Wall.

A.D. 138: Hadrianus dies after a stable reign aged sixty-two. Succession passes to Titus Aelius Antoninus, who was adopted by Hadrianus as his heir after the death in 138 of Lucius Aelius Verus Caesar, his primary adoption. Antoninus, known as **Antoninus Pius**, pursues a policy of consolidation, with the notable exception of the Lowlands of Scotland, where the frontier is advanced to a line between the River Clyde and the Firth of Forth, known as the Antonine Wall.

A.D. 161: **Marcus Aurelius**, nephew and adopted heir of Antoninus Pius succeeds. His reign heralds the end of a long, happy period in the history of Rome. His armies depleted by an extensive plague, he is obliged to fight against barbarian incursions for most of his years as Emperor. He dies at the age of sixty-nine, having almost reconsolidated the frontiers.

A.D. 180: Lucius Aelius Aurelius **Commodus** becomes Emperor on the death of his father, Marcus Aurelius. Owing to the profligate nature of his mother, Faustina the Younger, it is possible that Commodus was not Aurelius's son; he proves to be a dissolute and evil individual. He is finally assassinated by strangulation in 192.

A.D. 193: Publius Helvius **Pertinax** is made Emperor against his will and is murdered shortly thereafter by the Praetorian Guard. Marcus **Didius** Salvius **Julianus** purchases the throne at an auction, but is killed almost immediately. Lucius **Septimius Severus** emerges as victor from the ensuing civil war and assumes complete control. North British tribes take advantage of the disorder caused by the civil war and severely damage Hadrian's Wall. Extensive repairs to that defence work are carried out by Severus.

A.D. 208: Britain is divided into two Provinces.

A.D. 211: Severus dies at the age of sixty-five and the succession passes to his two sons: Marcus Aurelius Antoninus, nicknamed **Caracalla** after his custom of wearing a long Gallic coat, and Lucius Septimius **Geta**.

A.D. 212: Roman citizenship is granted to all freeborn subjects within the Empire. Caracalla becomes dissatisfied with joint rule and arranges his brother's murder along with his supporters. Caracalla then becomes sole Emperor; cruel and treacherous, he is killed five years later at the age of twenty-nine by Marcus Opelius Severus **Macrinus**.

A.D. 217: Macrinus succeeds to the throne and undertakes an unsuccessful campaign against the Parthians. He becomes unpopular with his soldiers and is murdered at the age of fifty-four in 218, after defeat in battle against his successor, Elagabalus.

A.D. 218: Marcus Aurelius Antoninus, known as **Elagabalus** or **Heliogabalus**, originally named Varius Avitus Bassianus, served as a priest at Emesa in Syria at the age of fourteen. Upon succession he proves to be a degenerate and is eventually assassinated by the Praetorian Guard at the age of eighteen.

A.D. 222: Elagabalus is succeeded by his cousin **Severus Alexander**, who rules justly. Unfortunately, he is later murdered by soldiers during a revolt in Germany.

A.D. 235: Caius Julius Verus Maximinus, **Maximinus I**, is made Emperor by the Rhine legions on the murder of Severus Alexander, but is declared a public enemy by the Senate in 238 and is eventually put to death.

A.D. 238: Marcus Antoninus Gordianus is proclaimed Emperor in Africa and becomes **Gordianus Africanus I** by the authority of the Senate, but commits suicide a little over a month later, having learned of the death of his son and co-ruler Marcus Antonianus Gordianus, **Gordianus Africanus II**, at Carthage. Decimus Caelius **Balbinus** and Marcus Clodius **Pupienus** Maximus are appointed joint Emperors to destroy Maximinus, who remains a threat. Upon the death of Maximinus, both Balbinus and Pupienus are killed by the Praetorian Guard, who hail Marcus Antonius Gordianus, grandson of Gordianus I, as Emperor **Gordianus III Pius**.

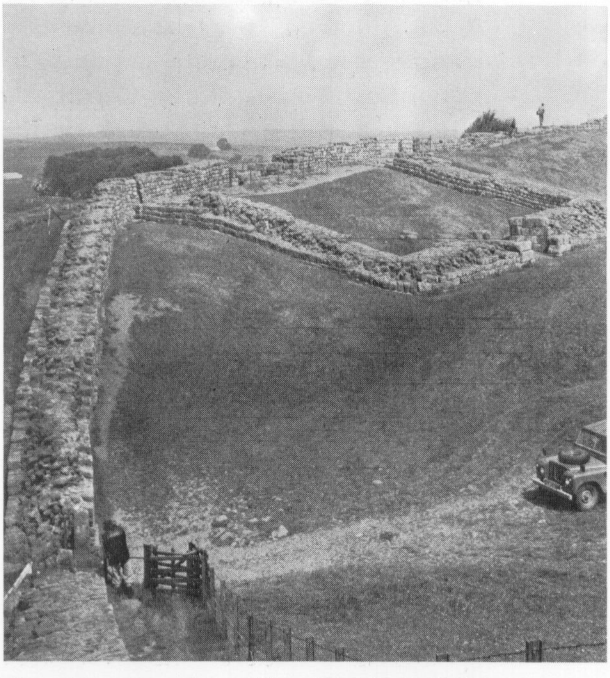
A.D. 244: Marcus Julius Phillipus, an officer of the Praetorian Guard, plots against Gordianus Pius and the latter is murdered at the age of twenty-one. Phillipus succeeds as **Phillipus I**.

A.D. 249: The Danube legions revolt against Phillipus and force their commander, Caius Messius Quintus **Trajanus Decius**, to assume the title of Emperor. Decius engages Phillipus in battle and the latter is killed.

A.D. 251: During a campaign in Thrace to throw back an invasion by the Goths, Decius is killed in battle at Abrittus and is succeeded by Caius Vibius **Trebonianus Gallus**.

A.D. 253: The legions of Pannonia and Moesia mutiny against Gallus under the Governor Marcus Aemilius **Aemilianus**, who is named Emperor by his troops. Aemilianus engages the forces of Gallus and defeats them. Gallus is then killed by his own men, despite support from Publius Licinius **Valerianus**, who was unable to reach Gallus in time to prevent defeat at the hands of Aemilianus.

After the death of Gallus, Valerianus and his son Publius Licinius Valerianus Egnatius **Gallienus** are proclaimed joint Emperors, ruling together until A.D. 260 when, during a border campaign, Valerianus is defeated and captured by the Persian, Shapur I, remaining a prisoner until he dies. The defeat of Valerianus may have been largely due to the actions of Marcus


The milecastle at Cawfields on Hadrian's Wall.

Fulvius Macrianus, who is nevertheless hailed Emperor by the troops. However, on his way back to Italy, he is confronted by one of Valerianus's generals, brought to battle and killed, together with his son and collaborator.

A.D. 259: Marcus Cassianus Latinus **Postumus**, the Governor of Gaul, declares himself Emperor and continues to rule in Gaul and Britain until 267 when he is killed in battle.

A.D. 265: Postumus names Marcus Piavvonius **Victorinus** as his co-ruler. Victorinus continues to rule alone after the death of Postumus until 270, when he is assassinated.

A.D. 268: The reign of Gallienus ends with his murder at the age of fifty and he is succeeded by Marcus Aurelius **Claudius II**, who stems incursions by the Alamanni, who have penetrated into Italy, and by the Goths in Moesia.

A.D. 270: Claudius II succumbs to plague. Lucius Domitius **Aurelianus** succeeds against opposition from Caius Marcus Aurelius Claudius Quintillus, who commits suicide once his cause is lost. Aurelianus forces the Goths to retire back across the River Danube, then turns his attention to Palmyra in Syria, defeating and capturing its Queen Zenobia. He is also responsible for the building of great defensive walls at Rome, much of which are visible today.

A.D. 275: Aurelianus falls victim to a conspiracy. Marcus Claudius **Tacitus** is proclaimed Emperor by the Senate, but is slain by troops a few months later.

A.D. 276: Marcus Annius **Florianus**, half-brother of Tacitus, holds power for some weeks, but is killed in battle by Marcus Aurelius **Probus**, a good soldier and administrator, who is later put to death during an army mutiny.

A.D. 283: Marcus Aurelius **Carus** is elected Emperor by the army, but is killed shortly thereafter while campaigning against the Persians. His two sons, Marcus Aurelius **Carinus** and Marcus Aurelius **Numerianus** reign jointly after their father's death.

The remains of the south gateway at Cawfields milecastle.

A.D. 284: Numerianus dies and Caius Aurelius Valerius **Diocletianus** is proclaimed Emperor. He carries out many reforms, including an attempt to revive the old state religions, bringing about a severe persecution of the Christian sect. In 286, Diocletianus associates himself with Marcus Aurelius Valerius **Maximianus** in joint rule and both men finally abdicate in 305.

A.D. 287: Marcus Aurelius Mausaeus **Carausius**, commander of the Gallic fleet, rebels against Maximianus, takes his marine force to Britain and there declares himself Emperor.

A.D. 293: Carausius is murdered by his chief minister of finance Caius **Allectus** who usurps his position. At about the same date, Flavius Valerius Constantius lays siege to and takes Boulogne.

A.D. 296: Constantius invades Britain and retakes the Province for Rome. Allectus is killed in the fighting. The fortress of Eboracum (York) and Hadrian's Wall are rebuilt.

A.D. 305: Diocletianus and Maximianus abdicate and are succeeded by Constantius, **Constantius I Chlorus**. Caius **Galerius** Valerius Maximianus, created Caesar by Diocletianus, takes the title Augustus and names Flavius Valerius **Severus** as Caesar.

A.D. 306: On the death of Constantius Chlorus, Flavius Valerius Aurelius **Constantinus** is proclaimed Emperor at Eboracum. Marcus Aurelius Valerius **Maxentius**, son of Maximianus, opposes Galerius and Severus with the aid of the Praetorian Guard. He eliminates Severus and causes Galerius to flee from Italy.

A.D. 308: Constantinus takes the title of Augustus in opposition to Maxentius.

A.D. 312: Constantinus inflicts defeat on Maxentius at the battle of Pons Milvius, and Maxentius perishes in the River Tiber during the ensuing rout. Constantinus shares power with Galerius Valerius Maximinus—**Maximinus II Daza**—and Publius Flavius Galerius Valerius Licianus—**Licinus I.** Licinius eliminates Maximinus.

A.D. 313: Constantinus and Licinius issue the Edict of Milan, which recognizes Christianity as the official religion.

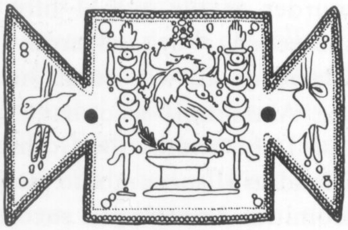
A.D. 324: Licinius moves against Constantinus, but fails and is killed. Constantinus becomes sole Emperor.

A.D. 331: Constantinus moves the seat of Imperial Government to the city of Byzantium and renames it Constantinople.

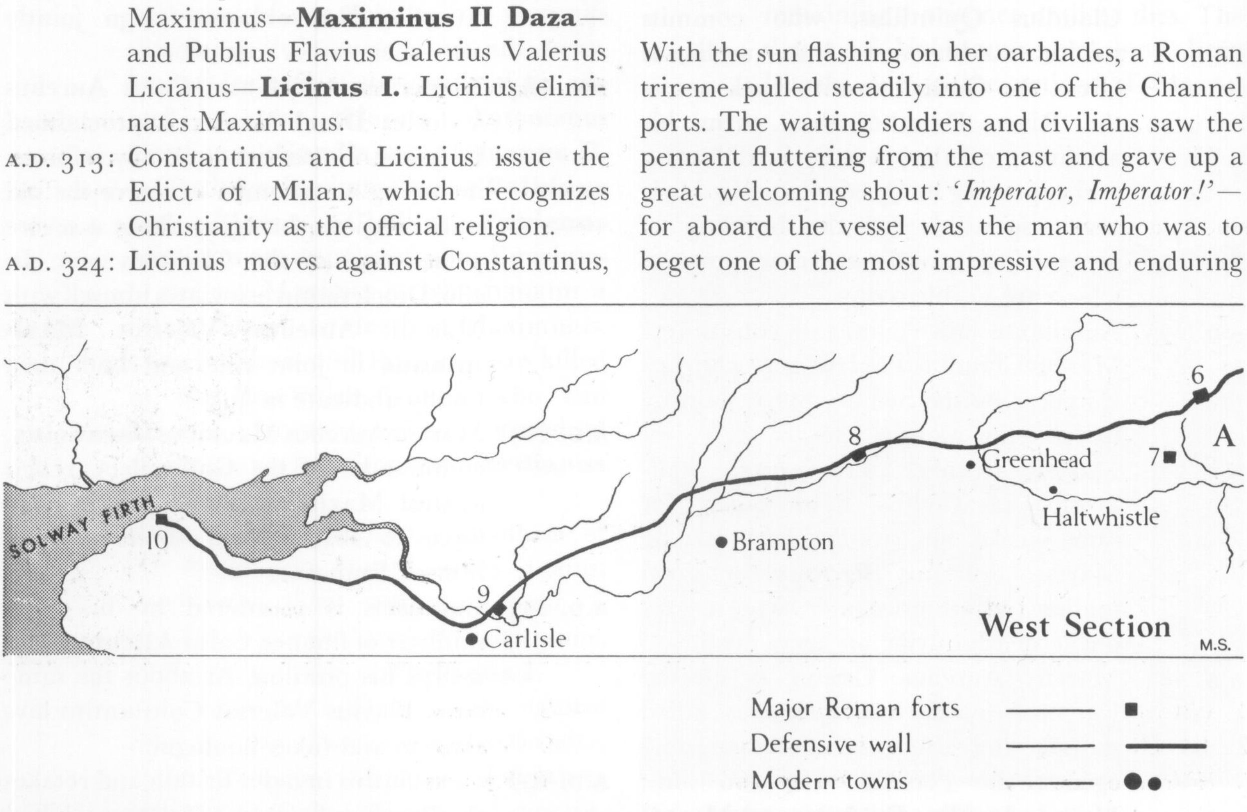
* * *

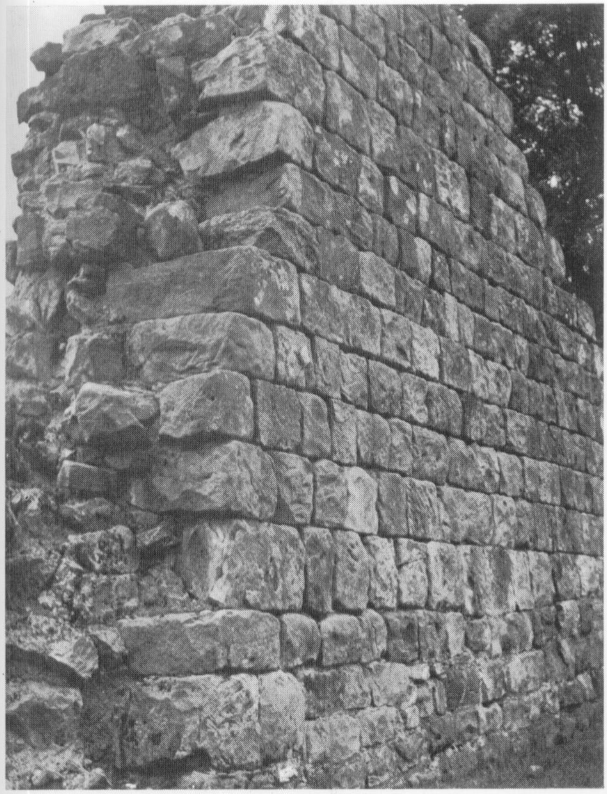
Readers are advised to consult the author's previous book in this series, *The Roman Army from Caesar to Trajan*, for certain basic background information which for reasons of space is not repeated here.

The Great Wall



With the sun flashing on her oarblades, a Roman trireme pulled steadily into one of the Channel ports. The waiting soldiers and civilians saw the pennant fluttering from the mast and gave up a great welcoming shout: *'Imperator, Imperator!'*—for aboard the vessel was the man who was to beget one of the most impressive and enduring





A fragment of the structure of Hadrian's Wall at Hare Hill; the core is original, and the facing stones are restored.

Roman military works to survive into modern times: Publius Aelius Hadrianus, the Emperor Hadrian.

This year of 122 was the first time a Roman Emperor had set foot in the Province of Britannia since the invasion in A.D. 43. Hadrian, an intelligent and energetic ruler, had come to inspect the Province in person; and apparently its security in particular. No doubt he had read many reports concerning the damage caused by marauding tribesmen crossing from what is now Scotland into the Province, pillaging, destroying and encouraging others within the Roman pale to resist the occupation. And so Hadrian decided—in the words of his biographer—'to build a wall to separate the Romans from the Barbarians'.

While it has been considered that the Wall was built partly, or even largely, to give legal definition to the extent of Roman rule, its major function was, without any doubt, to secure the northern frontier against the Scottish tribes. Incidentally, it did produce the effect of a powerful chain of military installations which could readily be supplied from the sea in the event of an uprising to the south.

There remains some dispute as to the exact year in which the building of the Wall commenced; some believe it to have been begun in A.D. 120, and subsequently delayed by disturbances in the Province which necessitated some changes in the original plans. Therefore the following description of the building of the Wall is partly open to question.

The Building of the Wall

The initial concept was the construction of a stone barrier, ten Roman feet* in thickness, from Newcastle in the east to the River Irthing. The remaining distance from the Irthing to the

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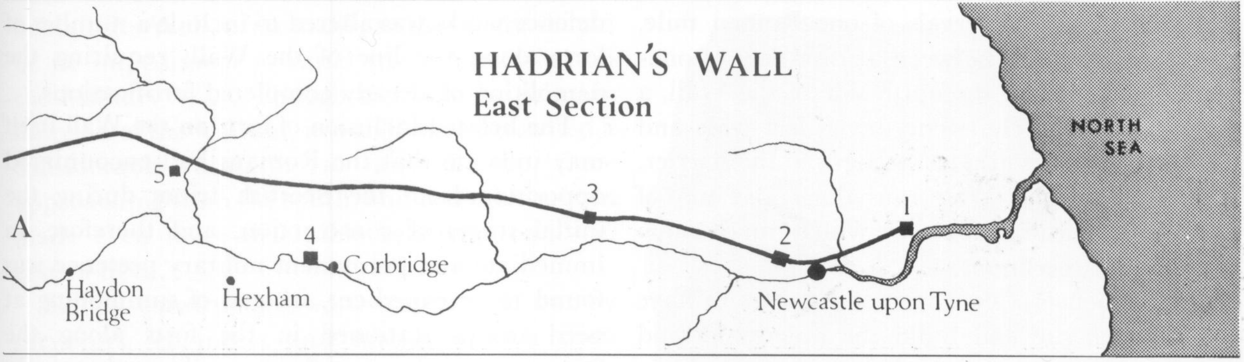
*1 'pes' equals .962 foot Imperial measure.



1 Wallsend
2 Benwell
3 Heddon-on-the-Wall
4 Corbridge depot
5 Chesters
6 Housesteads
7 Chesterholm
8 Birdoswald
9 Stanwix
10 Bowness

The floor of a large granary at the supply base of Corstopitum (Corbridge) just south of the wall. Finds at Corbridge have been of great importance to our understanding of Roman armour.

Solway Firth on the west coast was to be fortified with a turf-and-timber rampart, twenty feet wide at the base.

The fortifications were furnished with milecastles at regular intervals of one Roman mile, with two turrets in between at distances of one-third of a mile. On the north side of the Wall, a ditch approximately twenty-seven feet wide and ten feet deep gave greater strength to the barrier, except where the Wall ran along the top of precipitous natural features which made such excavation superfluous.

The sequence of construction appears to have been first to site and build the milecastles and turrets, and then to link them together with a curtain wall. The fact that some of these structures were clearly intended to receive a curtain wall ten feet in thickness (and indeed foundations for walling of that dimension were laid) but in the event were completed with a narrower superstructure, shows that an increase in speed of construction became necessary. One explanation may be found in that the original plan of the defence works was altered to include a number of forts along the line of the Wall, requiring the demolition of already completed fortifications.

The belated inclusion of forts on the Wall itself may indicate that the Romans had encountered opposition from the Scottish tribes during the initial stages of construction, and therefore an immediate and permanent military presence was found to be expedient, instead of summoning at need troops stationed in the forts along the Stanegate road as much as a mile to the south. Conceivably both these factors could have influenced the decision to lighten the Wall structure, for the building of unforeseen forts of quite large dimensions would have badly disrupted the programme at first laid down.

The building of a turf-and-timber rampart along the western sector of the frontier, supports the theory that the rapid establishment of an impenetrable line was of importance. It is probable that the use of turf and timber—semi-permanent materials at best—was also caused by the absence of suitable building materials in the immediate area, there being no limestone source west of the Red Rock Fault running north to south near present-day Brampton. The turf rampart was, however, later replaced with stone when time permitted—certainly before the end of the 2nd century.

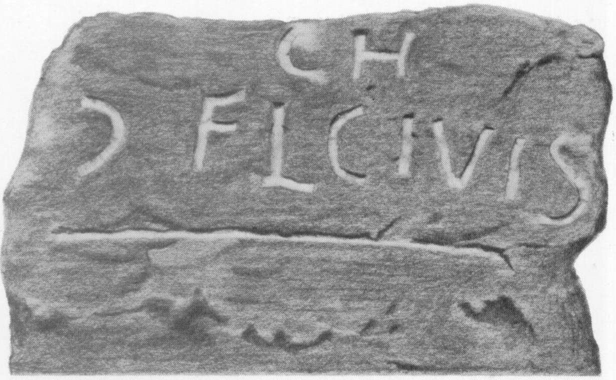
The forts were placed, where practicable, astride the Wall, with three double gates to the north of the Wall line. Although there is disagreement about the precise purpose of the gates, they very clearly presented a considerable deterrent to any would-be attacker, who could easily find his means of retreat cut off by cavalry making rapid sorties from the forts.

Behind the Wall and close to it ran the 'Military Way', a road some twenty feet wide, and to the south of that, at varying distances, lay the Vallum, a flat-bottomed ditch averaging twenty feet wide at the top, ten feet in depth and eight feet wide at the bottom. The spoil from the excavation was deposited on either side of the ditch, about thirty feet back from the edges, providing continuous ridges about six feet in height; access to the Wall was by gated causeways.

The purpose of the Vallum appears to have been to mark the limit of a strict military zone behind the Wall, presumably so that there should be no impediment to rapid troop movement on the Military Way. Though this was the primary function of the Vallum, it would have presented a considerable obstacle to any hostile force approaching from the south, and could have been made even more defensible relatively easily in case of need.

Skilled construction work was carried out by surveyors, engineers and masons drawn from three legions: Legio II Augusta, the newly-arrived Legio VI Victrix Pia Fidelis and Legio XX Valeria Victrix (XXth Valeria had been awarded the title 'Victrix' for the legion's part in putting down the disastrous Boudiccan revolt in A.D. 61). As each century completed its allotted section of the work, an inscribed stone was set into the Wall or other structure to record the fact. A considerable number of these building stones have survived and may be seen preserved in museums along the Wall—Carlisle Museum possesses some thirty-six of them, which show clearly that not only legionary infantry were engaged in building the defence works. A rather extreme example, thought to have come from the Wall near the Birdoswald fort, is inscribed PED(ATURA) CLA(SSIS) BRI(TANNICAE)—'The length in feet built by the British Fleet'—presumably marines rather than sailors. Others bear clear legionary inscriptions: LEG(IONIS) II AUG(USTAE) COH(ORS) VII SU(B) CU(RA) . . .'—'From the second legion Augusta—the Seventh Cohort under the charge of . . .'. The inscription is incomplete, but was found at the High House milecastle, which would have required the attention of highly skilled hands for its construction. Indeed, one may say that most if not all of the curtain wall foundations and complete buildings such as milecastles were the work of the legionaries.

Simpler operations, the Vallum for example, probably employed mainly Auxiliaries for the actual excavation work; a stone found about 200 yards to the south of the Vallum is inscribed C(OHORS) IV LIN(GONUM) F(ECIT)—'The Fourth Cohort of Lingonians built this'. It does not appear that the same can be said with any certainty of the ditch to the north of the Wall, which must have presented a real challenge on



A building or marker stone from Hadrian's Wall, possibly from the first period of construction. The inscription refers to the Cohort under the command of Centurion Flavius Civilis, using the conventional abbreviations found in Roman inscriptions. (Chesters Museum)

some stretches. This was certainly the case at Teppermoor Hill, known as 'Limestone Corner'. There the regularity of excavation was interrupted by an outcrop of hard basalt rock, which required considerable effort to remove. Indeed, the operation was never completed: a large column of rock remains in the centre of the ditch with holes cut into the upper surface in preparation for splitting the mass. Perhaps the Romans considered, as seems the case today, that the work done had achieved a perfectly adequate defence and no further effort was required—attempts to cross the ditch at that point with any haste carry a guarantee of at least a broken ankle.

The Milecastles

The milecastle should really be considered as a fortified gateway, probably manned by no more than sixteen men, possibly less. While various suggestions may be made as to the precise purpose of these structures, it seems wholly reasonable to regard them as points through which a Roman force could gain access to the territory north of the Wall without losing time or tactical advantage by moving as far as the nearest fort. However, it must be noted that some of the gateways are sited above quite formidable escarpments—a good example is at Cawfields—and one can easily imagine cavalry coming to grief in attempting a foray.

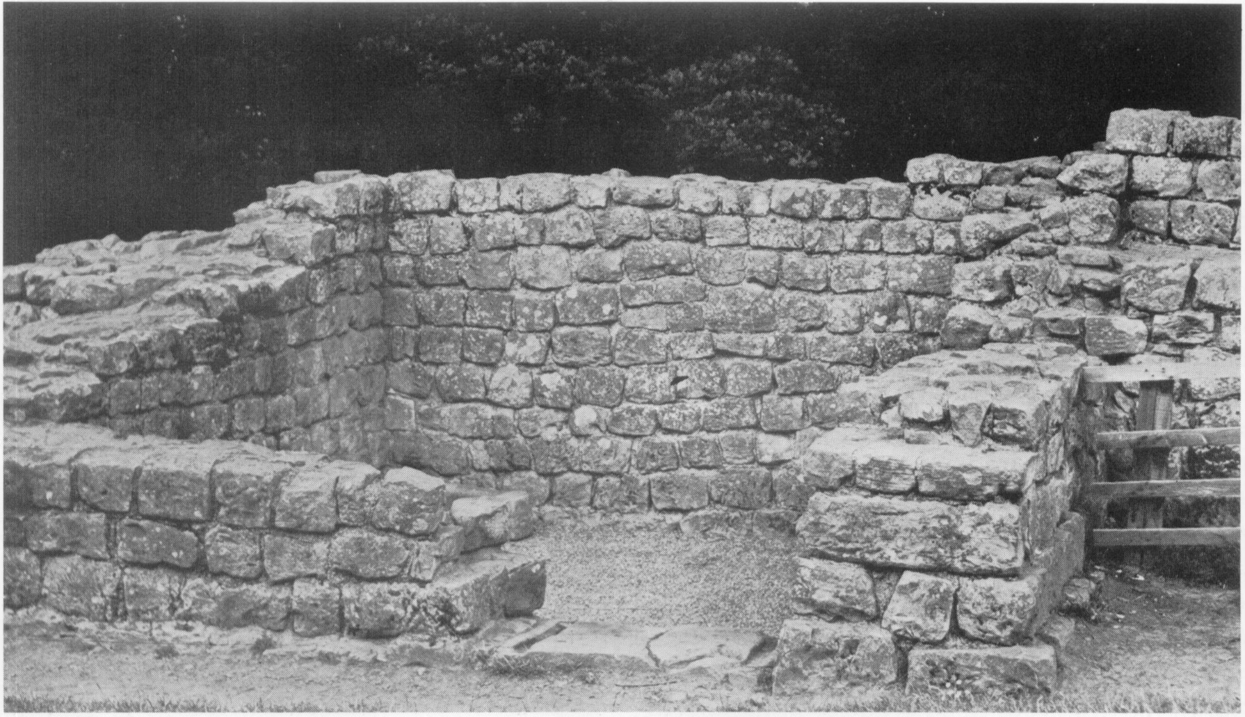
No doubt the milecastles later became no more than openings in the Wall when the Scottish Lowlands were annexed and the frontier moved north to the Forth-Clyde line, the Antonine Wall; at no time does there appear to have been any attempt to seal them off, and it may be assumed that they reverted to their original military function once the Lowlands were finally abandoned under Caracalla in A.D. 211.

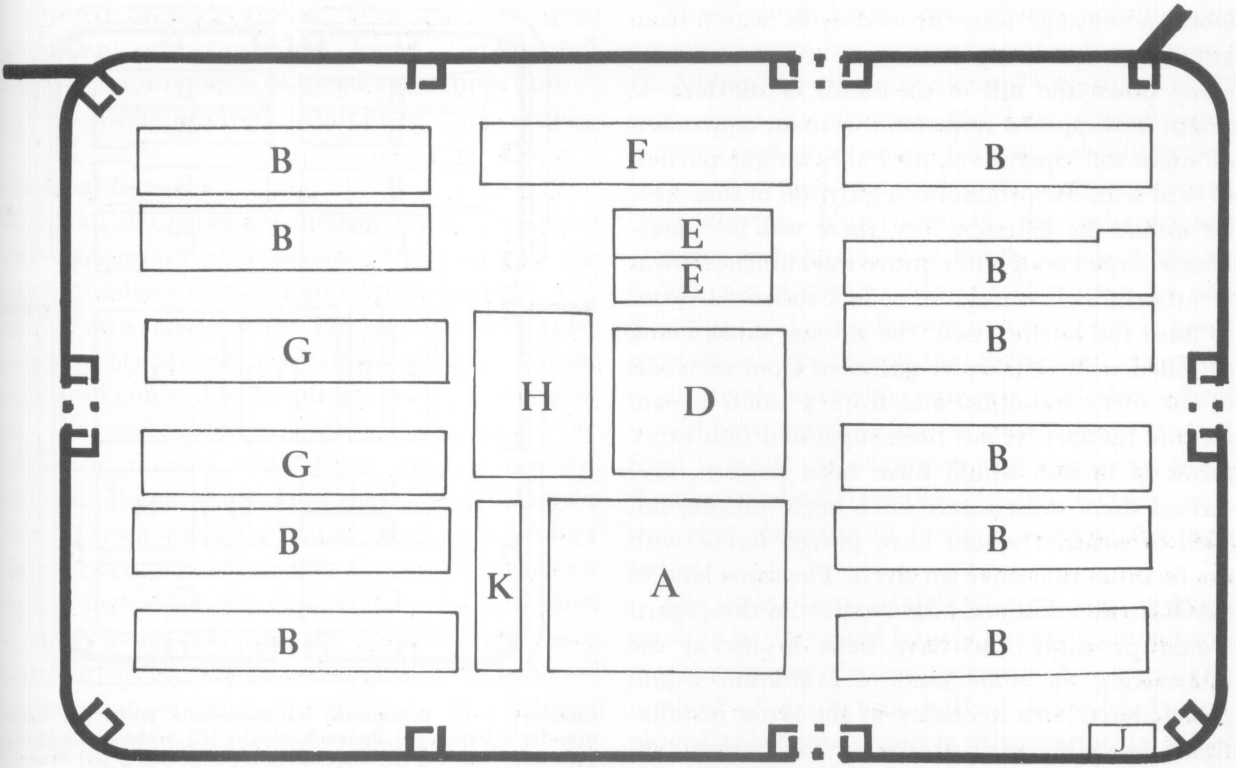
The Turrets

These small guard towers provided sheltered observation points, and a means of access to the Wall walkway; they may also have served as signal stations at certain places where visibility is obstructed by the unevenness of the terrain. Since there are no signs of there having been stone stairways within these structures, it is assumed that access to the walkway level was by ladder.

Unfortunately there are no remains or other information from the Wall itself to enable modern

The remains of a Wall turret at Brunton near Chollerford, possibly the work of Legio XX Valeria Victrix.





Housesteads Fort (Vercovicium), one of the best-known excavated sites along the Wall: (A) Commander's house (B) Barrack blocks (D) Headquarters building (E) Granaries (F) Workshop (G) Stores (H) Hospital (J) Latrine (K) Ablution block. Many of the functions of the buildings are presumed, and based upon those identified in other forts.

eyes to reconstruct, with complete accuracy, these or any of the other upper parts of the defensive works. However, information from other sources shows clearly that the Romans employed standard systems of construction, even if these varied slightly from legion to legion, and it is upon such sources that one is obliged to draw in order to gain an impression of a turret's original appearance. Opinions differ: some authorities believe that the turrets had either pitched or pyramidal roofing, following the signal towers shown on Trajan's Column, while others declare for a flat roof with a castellated parapet, which would have made signalling by either cresset or semaphore easier. The true appearance will remain hypothetical until more concrete evidence comes to light.

Forts on the Wall

Compact, sturdy and efficient, the forts are excellent examples of Roman planning; though here again one is obliged to draw upon other evidence for likely reconstruction, so badly robbed are all the Wall structures.

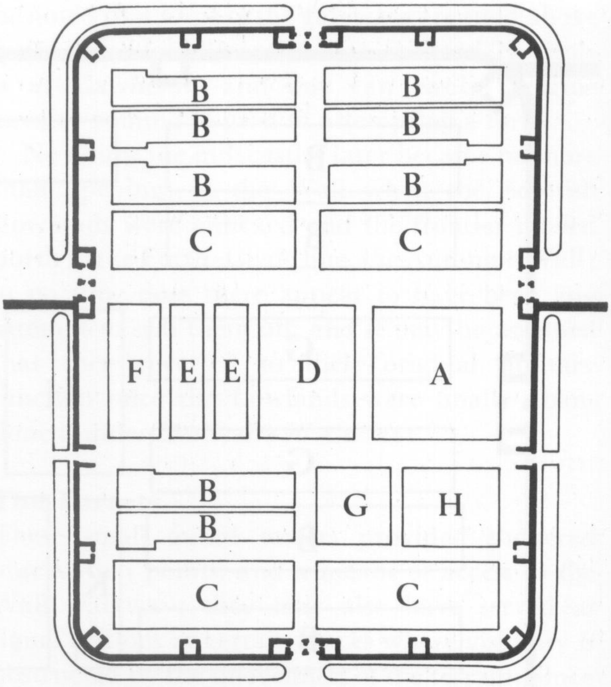
The most famous of the forts is that at Housesteads (Vercovicium). This example differs from most others in that its long axis lies along the line of the Wall and has only one gateway to the northern territory. The fort was probably planned in this fashion because it is perched upon the Whin Sill ridge, with a very sudden escarpment immediately to the north and a steep slope leading up to it from the south; to have placed the fort's long axis at right-angles to the Wall would have meant the inclusion of too steep a gradient within the enclosure. The building of only one double gateway to the north may indicate an intention to garrison the fort solely with infantry; the nature of the 2nd century garrison is, as yet, unknown, but in the 3rd and 4th centuries it was the base of the 1st Tungrian Cohort—a thousand-strong auxiliary infantry unit with irregulars in support.

The fort, covering some five acres, includes a surprisingly well-preserved example of a latrine building, which would have accommodated about twelve men at any one time. The deep sewer channels, which ran below the now vanished wooden seating, were flushed with water from adjacent stone storage tanks, the sewage draining away down the hill to the south of the fort. It might be supposed that there were an equivalent of 'night soil' operatives, probably fatigue parties, to deal with the product of a garrison of that size; for unlike the Chesters fort, there was no watercourse large enough to remove the effluent. It was clearly difficult enough to collect sufficient water to flush the latrine itself, the storage tanks being supplied with rain-water gathered from the roofs of the fort's buildings and from a small stream outside the fort. It has been suggested that other forms of latrine would have been present, and indeed there must surely have been—a long hot spell of weather would have played havoc with the facilities that have survived. The same kind of earth latrines that one might expect in this regard would probably also have been in use at the milecastles, for some kind of sanitation would clearly have been necessary at the latter installations; probably very similar to the latrine slots fitted with wooden covers found at Waddon Hill of mid-1st century date.

To the south of the enclosure there grew up a small town called a *vicus*, approximately twice the size of the fort. The inhabitants of the town, some of whom were doubtless dependants of the soldiers, would have provided a variety of services to the men which would not otherwise have been available, and may also have traded with the peoples to the north. It was not unusual for such a settlement to attach itself to a Roman military installation, and apparently this was not discouraged; it would obviously have made the soldiers' arduous life that much more tolerable. The term *vicus* appears to have referred purely to towns of this nature, the normal word for a town being *oppidum*.

The fort at Chesters—Cilurnum—beside the North Tyne began its life as a cavalry base, though the name of the particular unit is not yet known. Later in the 2nd century the fort was occupied by an infantry cohort, the 1st Dalmatians (I Delmatarum), but reverted to its original function in the 3rd and 4th centuries as the base of the 2nd Ala of Asturian cavalry, a unit originating from the tribe of the Astures in northern Spain.

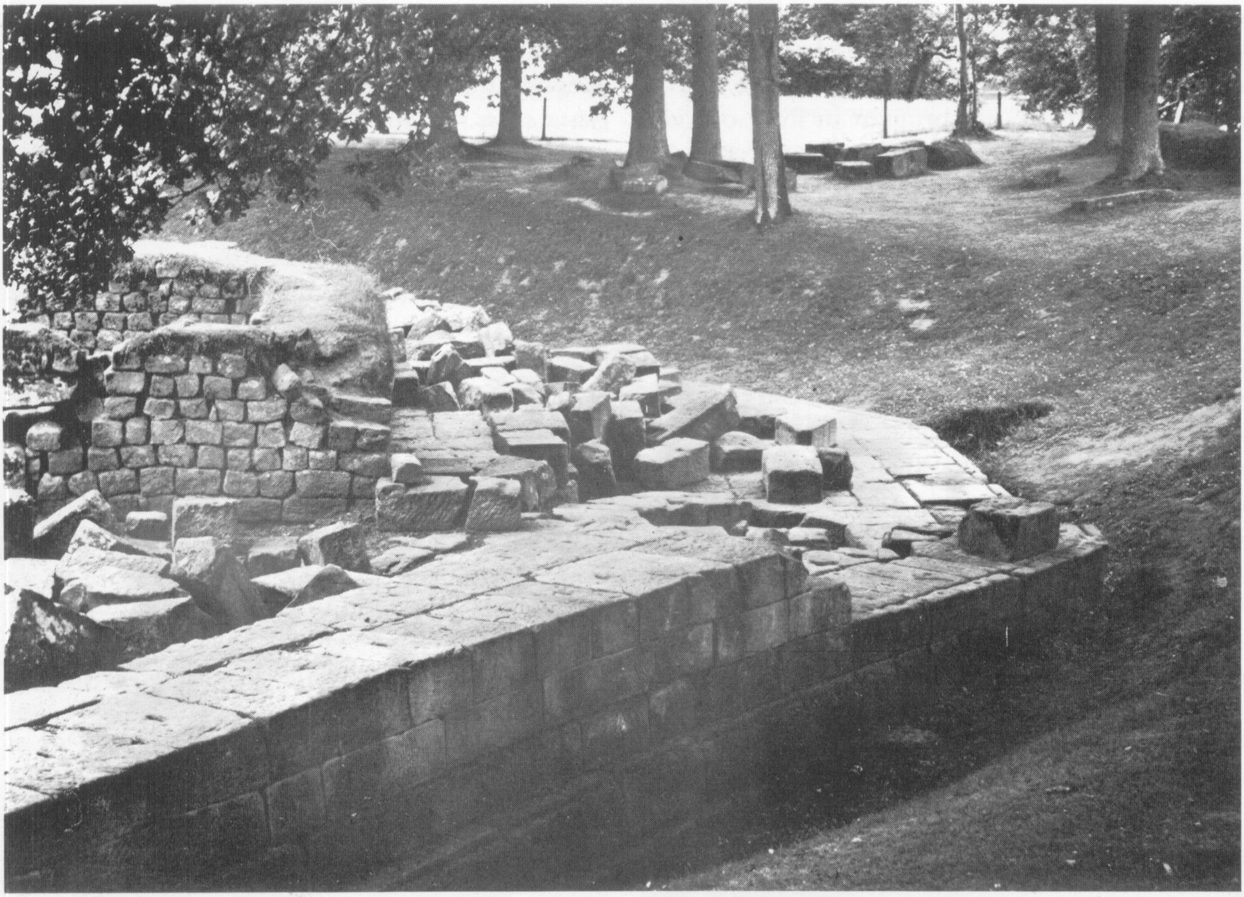
Between the east wall of the fort and the Tyne, the remains of a military bath-house still grace the river bank. The baths were not merely for cleanliness, but also for relaxation, which may be the reason for the quite large changing room with its series of niches in the west wall, thought to have been receptacles for bathers' clothing. Walking amongst the walls, it is not hard to imagine the rattle of dice, and the deep-voiced oaths and laughter as soldiers lost their pay.



Chesters Fort (Cilurnum) on Hadrian's Wall: (A) Commander's house (B) Barrack blocks (C) Stables (D) Headquarters building (E) Granaries (F) Workshop (G) Stores? (H) Hospital.

The building contains the normal range of rooms of varying temperature and humidity associated with all such Roman baths. There is also a latrine similar in design to that at Housesteads, but smaller; effluent presented no problem here, as sewage was simply flushed into the river a few feet away by water from the baths.

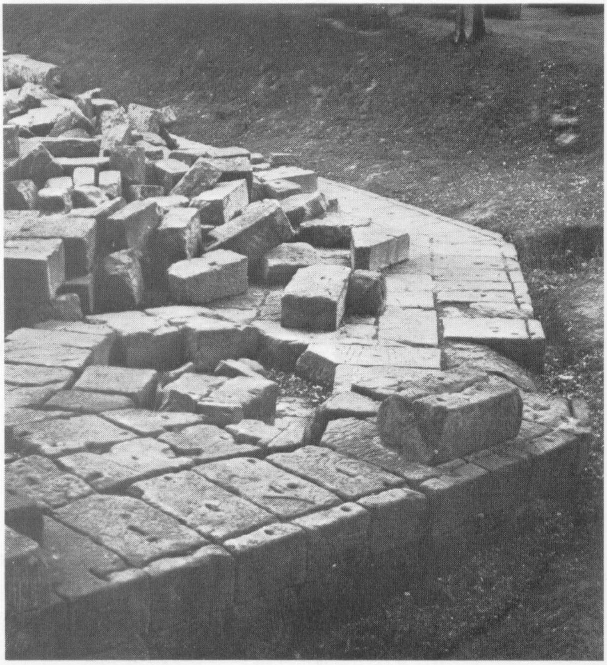
On the opposite bank of the river part of a stone bridge abutment is still to be seen, where a timber bridge continued the Wall walk across the river to the fort. The large exposed stones show Lewis holes for lifting—a dovetailed incision, one per stone, into which an ingenious hook device was inserted and engaged as the slack of the lifting gear was taken up. The stones were very finely dressed, and show that either the legions contained some



to shield the flesh from the barbs as extraction took place and, in the case of broad-headed arrows, the use of a special instrument called 'the scoop of Diocles'. This was a blade-like instrument, presumably wider than the barbs of such arrows, curled back at the lower end with an aperture pierced through the crook thus formed. The upper end was worked into two hooks as a means of gripping the instrument, which was inserted into the wound and manoeuvred until the point of the missile engaged in the aperture; both instrument and missile could then be removed simultaneously by means of the hooks.

Other operations of greater consequence, such as limb amputations, would have been carried out in fort hospitals; the procedure, according to Cornelius Celsus in his work *de Medicina*, was virtually identical to that of the present day—although, of course, there was no anaesthetic. The use of drugs was also known and widely practised in the treatment of various disorders; though modern man would regard them as little more

The bridge abutment at Chesters, where the Wall crosses the North Tyne; in some of the stone blocks 'Lewis holes' are still clearly visible.



than herbal remedies, they were probably reasonably effective, always providing the diagnosis was correct. Naturally enough, being firm believers in unseen divine entities, the Romans accompanied sound medical treatment with much religious supplication; but basically, their approach to the maintenance of health was highly practical.

Diet in the forts differed considerably from field rations. Military sites have yielded large quantities of animal bones and bivalve shells, which make it abundantly clear that the soldiers ate precisely the same foods as the civilian population when not engaged in field operations. In the field, as one might expect, they were obliged to carry foodstuffs which would not deteriorate rapidly, and it is this fact which has given rise to the misconception that the Roman soldier was a vegetarian. Perhaps it would not be improper to conjecture that the field rations were supplemented with perishables gathered by forage, as well as grain obtained in that fashion; legionaries may be seen on Trajan's Column harvesting wheat with hand sickles while on campaign.

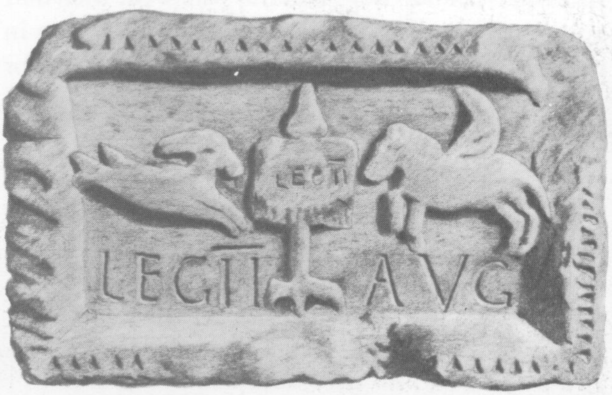
Religion

Religious beliefs, however dark or ludicrous they may seem to many people today, played a very necessary rôle in the life of the ancient soldier. In a cosmopolitan army such as that of the Romans, a very large number of deities were duly reverenced. The State Gods of the Empire were present in all parts, especially Jupiter and Mars; no mere accident that the shield of the legionary, with which he struck down his foes, should so often have been painted with the thunderbolt of 'Jupiter the Greatest and Best'. Besides these adopted Hellenistic deities, and probably a more powerful influence upon the soldiers, was the cult of Mithraism—an esoteric form of worship which originated in India and found its way to the Romans by way of Persia, albeit in a slightly altered form.

The cult appears to have centred around man's age-old fear of the dark. To a soldier the dark is unnerving, since it provides cover for enemies; but to the Roman, the dark meant more than just the wrong end of a spear or knife, it was also the dwelling place of evil forces. Against these imaginings he sought protection from Mithras, whose numerous titles made him a suitable candidate to oversee any occasion when one of his initiates might require assistance.

Mithras, the Lord of Light, was engaged in a constant war against the forces of Ahriman, the personification of evil; and there can be no doubt that it was an uneasy recognition of the many similarities between Mithraism and the derivative Christian observance which brought about the desecration of the Mithraic temples after the official acceptance of the Christian doctrine by the Romans in A.D. 313. Many fine Mithraic sculptures survive, however, probably because adherents to the old religion hid them from the Christians. (A splendid head of the God may be seen in the London Museum, amongst other sculptures and artefacts from the London Mithraeum.)

A stone tablet erected by Legio II Augusta at Benwell. It shows the legion's 'birth sign'—Capricorn—on the left; a flag standard (vexillum) with a three-pronged shoe in the centre; and the legion's badge—Pegasus—on the right.



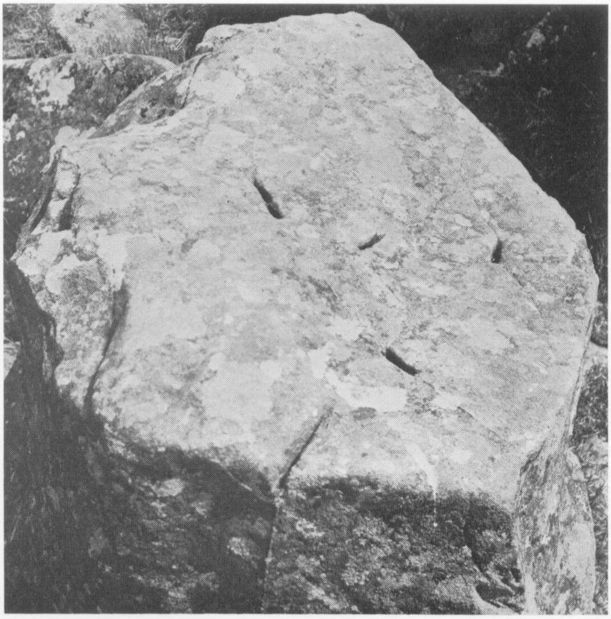
Other aspects of spiritual protection and guidance may be found in the concepts of the *genii* and Augury. The *genii* were rather vague incorporeal beings who embodied the unity of any group of persons, however large or small. In the army these entities were embodied in the standards of a unit, and so the loss of one or more of these was considered to be the cause of dire consequences above the mere disgrace of permitting the enemy to make off with the unit's insignia.

An interesting question arises in connection with the attire of the bearers of those sacred objects. Prehistoric cult leaders, or 'magicians' as they are called today, are known to have worn the pelts of animals for their ceremonies. Could the Romans, consciously or subconsciously, have been following a very ancient religious custom by clothing their standard-bearers in animal skins?

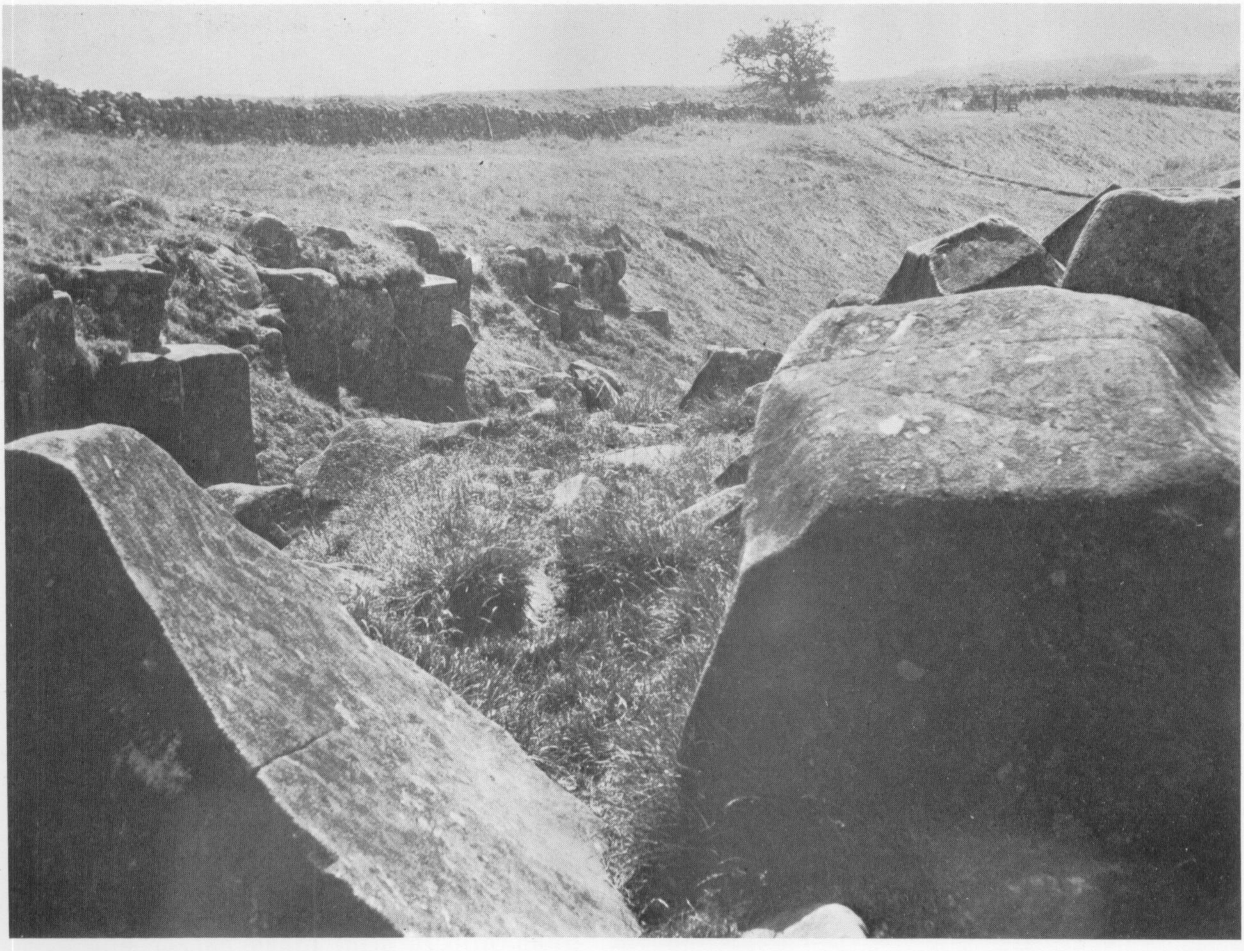
Augury, or divination, was of course very widely practised in the ancient world, as it still is today, and the Roman military was certainly no exception. While a variety of means could be employed for the prediction of future events, the inspection of a creature's entrails appears to have been much used for that purpose. Indeed the practice continued long after the acceptance of Christianity: in the late 4th century, a unit was recalled from northern Britain, where the men had apparently been using the corpses of slain Picts in that ritual—though this was not the reason for their withdrawal.

Funerary Customs

Belief in an after-life, and the consequent likeli-



The ditch *(fossa)* of Hadrian's Wall at Limestone Corner; and (above) a basalt boulder prepared for splitting, and then abandoned.

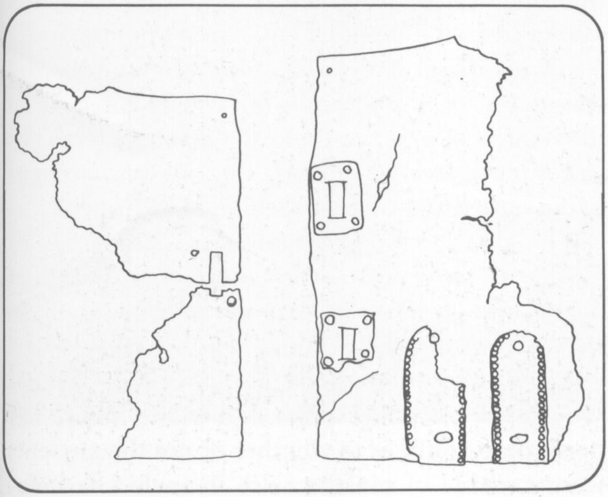


hood of spirits returning to interfere with the living, appears to be certainly as ancient as the late Palaeolithic period and maybe older. To the Romans there was absolutely no doubt whatsoever; spiritual survival was a simple, unquestioned fact, expressed in the practice of ancestor worship. Thus when a person died, his heirs or other appointed persons were obliged to perform with due ceremony and reverence the disposal of the remains, and to maintain, certainly in some cases, propitiation of the dead man's spirit, in order that he should not return and seek redress.

In the early Empire, cremation, with its obvious advantages, was the usual means for the disposal of corpses, the ashes normally being placed in a leaden container for burial (an excellent example is that of the Centurion Marcus Favonius Facilis in the Castle Museum at Colchester). In some cases—evidence of the maintenance of propitiation—a pipe protruded from the top of the container to above ground level, for the purpose of pouring libations directly onto the remains.

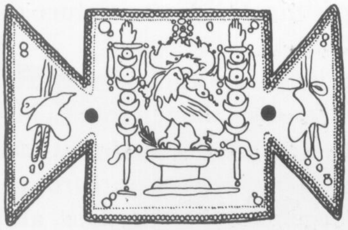
During the 2nd century cremation began to be replaced by the practice of burial. Precisely why this occurred is not yet clear, though the idea may well have spread from the Middle East, where that method had always been used on religious grounds. Troops and civilians from that region would doubtless have brought native customs with them to the western provinces and the Roman authorities, as was their habit, would have been careful not to interfere with such beliefs as long as they did not have an adverse effect upon order and discipline, and burials took place outside inhabited areas.

With the rise of Christianity and its creed of the resurrection of the physical body, burial had become the normal practice by the 4th century. In fact the new religion does not appear to have been accepted by the military to any appreciable extent, the preference being towards doctrines advocating strength and prowess in war, despite the ultimate declaration of Christianity as the State religion.



The remains of the right collar section of a *lorica segmentata* found at Newstead, near Melrose in Scotland.

Military Equipment



Body Defences

Cuirasses of the 'Newstead' type, which had been introduced in the late 1st century A.D., were probably widespread by the middle of the 2nd century, at least in the western provinces of the Empire. It has been considered that the eastern legions had continued to employ both mail and scale defences* long after the first of the laminated iron plate cuirasses had appeared, probably during the late first to early second quarter of the 1st century.

Use of the earlier patterns of cuirass (Corbridge 'A' and 'B' types†) would certainly have continued for quite some time after the introduction of the Newstead type, for two reasons. Firstly, re-equipping some twenty legions (excluding those of the eastern provinces) was

*Metopes of the Tropaeum Traiani at Adamklissi.

†See *The Roman Army from Caesar to Trajan* in this series, page 16 and Plates E2 and E3. The Newstead cuirass is also illustrated in that title, Plate F3.

very far from being an overnight operation, and there were many problems facing the Romans which we today tend to overlook—a good example is the production of iron plates. It was not a simple matter of ordering sheets of metal, rapidly made in a rolling mill. Roman plates were made by hammer work, which naturally took time. Possibly the time element was of greater importance in that respect than finance; the Empire being a slave-based economy, manual workers were not too hard to acquire and, of course, they were not in a position to make demands. (Even so, some expense would have been incurred by the administration, for slaves had to be housed and fed; and it would surely have been obvious to such an intelligent people that severe ill-treatment did not produce the required results.)

The same may have applied, to a certain extent, in the arms factories, though there a higher degree of skill was necessary and no doubt the armourers and most of their assistants were free or freed men with considerable pride in their abilities. Unfortunately, the precise numbers of factories *(fabriciae)* and the numbers of personnel engaged therein are unknown; thus it is impossible, as yet, to gauge the length of time it would take the Romans to produce, for example, 100,000 Newstead cuirasses.

Secondly, to the Romans, military equipment that was still in a serviceable condition remained useful regardless of its age; and it is clear from Trajan's Column that the earlier cuirasses were still in service with the western legions during the first Dacian campaign. This fact is shown by simplified portrayal of the large shoulder-guard hinges and leathering washers, though the majority of the cuirasses portrayed are of the Newstead pattern.

A fourth pattern of laminated cuirass appears, from sculptural representations, to have been developed at about the same time as the Newstead pattern, or a little later. While the evidence is confused and in one case shows no means of fastening the armour, the major difference from the Newstead type is that the deep, inflexible breast and upper-back plates were laminated in the same way as the girdles.

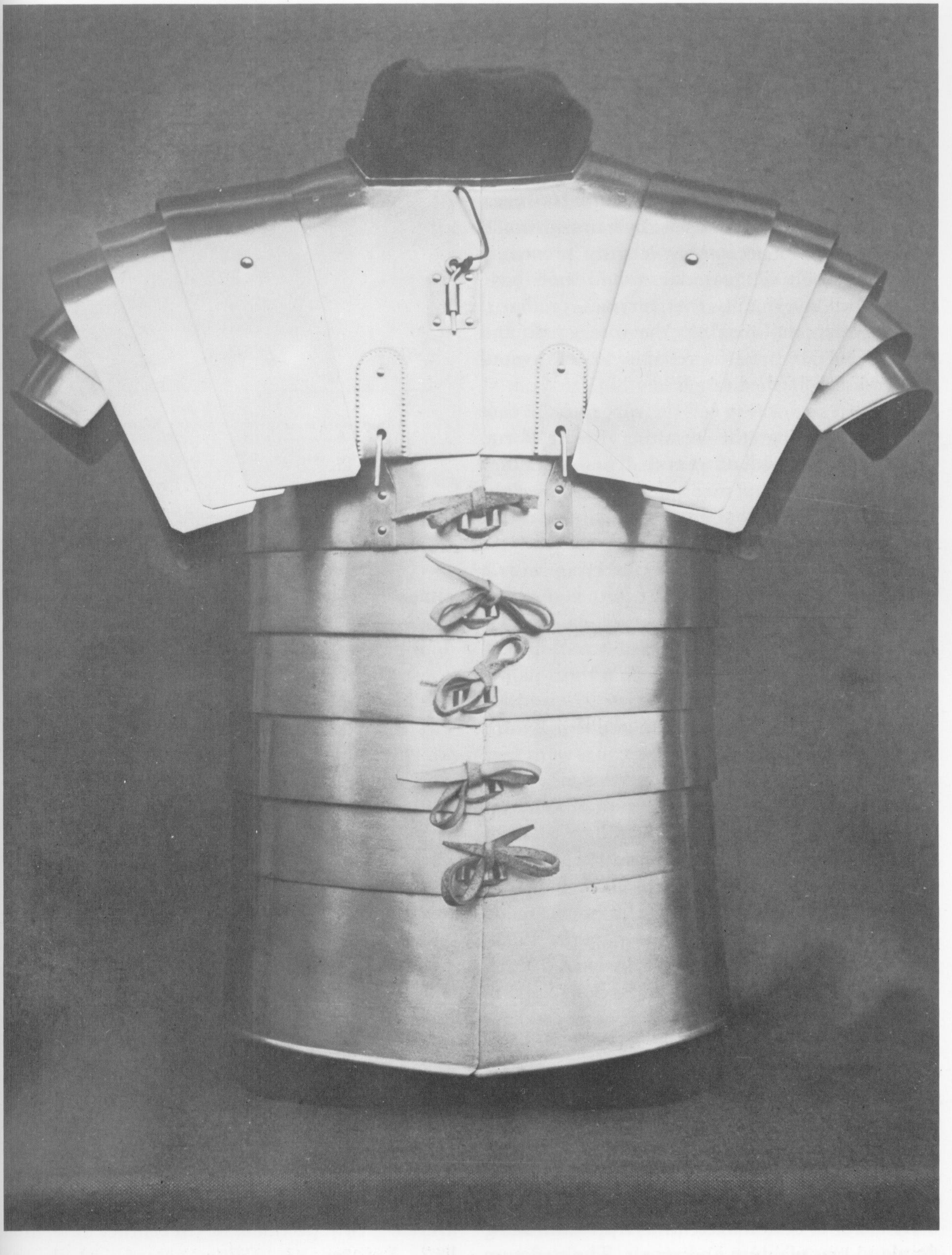
Upper-back sections had been made in that way previously in both the Corbridge cuirasses, and the practice may well have been employed for the breast sections subsequently. Experience with a reconstruction of the Newstead cuirass indicates that such an armour was a possibility and would certainly be easier to make; however, definite evidence from finds has yet to be discovered to prove the existence of such a type of armour. The sculptural evidence also shows the presence of a kilt and upper-arm defences of *pteruges*, which would have been attached to an arming doublet beneath the cuirass.

Mail defences continued to be worn by the Auxilia of the 2nd century, being of much the same appearance as the preceding century's hauberks with the exception of those of the cavalry, which were no longer furnished with a shoulder doubling.

No doubt the extremely fine mail, some faced with small scales, continued to be worn by the wealthy officer class; such beautiful and intricate defences would not have been discarded in favour of muscle cuirasses, the officers' alternative corselet. The fine mail of the 1st century was made from bronze rings measuring, in some cases, as little as 3mm in diameter. The application of scales to the face of the mail was carried out by bending the top of the individual scales back at a right-angle and passing four of the mail rings through holes in the ledge thus formed.

Since it takes approximately 180 hours to make up a complete mail hauberk of the simplest type worn by auxiliaries from stamped and butted wire rings of ¼in. diameter—some 22,000 in number—the manufacture of fine mail, which was also of riveted link, must have been an immensely costly exercise. However, from the number of fragments of individual shirts that have been discovered, it appears that such defences were not uncommon among officers, the number perhaps being equalled by those with scale facing.

The method of production of mail rings in ancient times was probably no different to that of later periods. Riveted wire rings were made in the following fashion: first, wire of the desired gauge had to be made by pulling a rod through progressively smaller holes in a plate. There has been some doubt as to whether or not the ancients were capable of making wire in such a fashion,



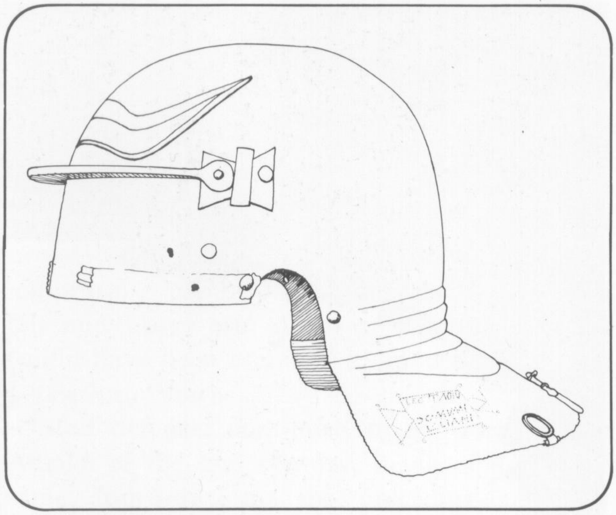
Author's reconstruction of a *lorica segmentata* of Newstead type.

but if one takes into account the surviving specimens of Roman tooling and the quality of wire which they produced, it becomes clear that the same or a similar method was used. It has been suggested that the wire was made purely by hammer work, and no doubt the initial rod would have been—tapered at one end for insertion into the primary hole in the drawing plate. However, to work down so much fine wire by hammer would have been an unacceptably lengthy procedure and the resulting material would not have approached the quality that survives, or that is necessary for mail-making; the wire gauge and size of ring are vital in relation to the overall weight of the finished article.

The next step was to coil the wire round a core and chisel along the resulting spring form, producing rings with offset ends. These were then forced through a tapering hole which caused the ends to overlap. In that form, the individual ring was placed in a special pair of tongs and the overlapping ends flattened for piercing with a second pair of tongs with a claw device in the jaws. The ring was then ready for insertion into the shirt, being secured with a chip of bronze placed into the piercing and riveted with a third pair of tongs with recesses in the jaws.

While both riveted and 'butted' rings—the latter being simply cut from the coil—were used for mail in the ancient world, the Romans appear to have always riveted their products, the resultant mail being very much stronger than the butted variety, which could be torn open quite readily. This fact does much to account for the relatively small quantity of mail fragments found on military sites, which in turn gave rise to the belief that the Romans possessed only a small quantity of mail. In view of its longevity, if properly maintained, it would not be beyond the bounds of possibility that some of the mail worn by soldiers during the Claudian invasion of Britain in A.D. 43 had in fact been used by Caesar's legionaries a century earlier. It is certain that the Romans continued to use mail as late as the 4th century, evidenced by a find at Caerleon in South Wales.

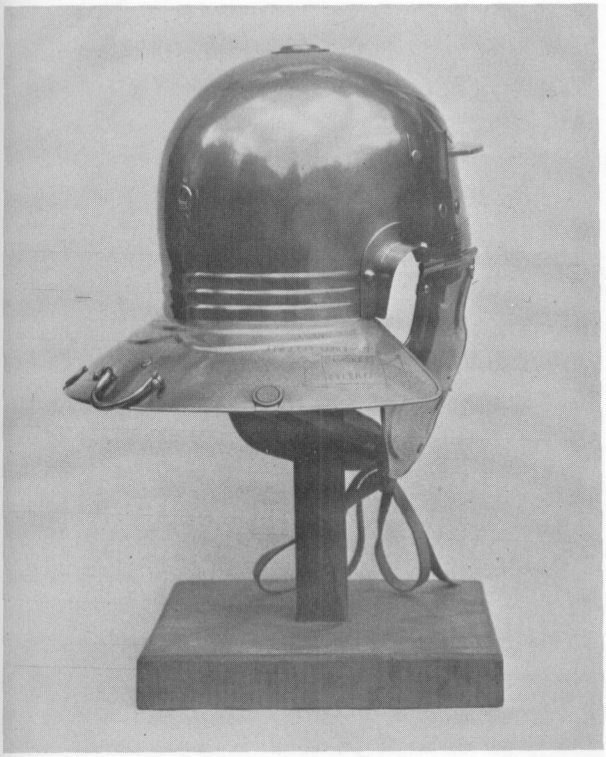
Defences of scales were always present, being simple to manufacture and repair. The structure remained the same as that of the 1st century—rings linking the scales together in horizontal rows, which were then sewn to a foundation of either fabric or hide. In one case, straw was employed between the scales and the foundation, doubtless to prevent the rough wire rings and corners of the scales from damaging the garment to which they were attached.



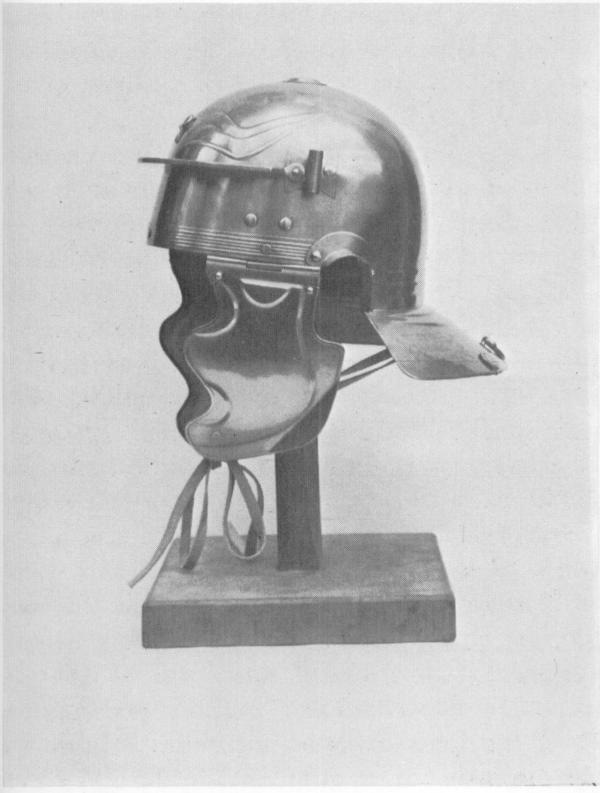
The remains of the bronze legionary helmet of 1st century date recovered from the Rhine near Mainz. Inscriptions on the neck-guard read: L. LUCRETIUS CELER **in the Century of** CAIUS MUMIUS LOLIANUS—LEGIO I ADIUTRIX.

The 3rd century saw a new type of scale armour which did not require a foundation. Because the rows of scales also had to be ringed together vertically, the defence was rendered virtually inflexible and therefore the body area covered (assuming this type of armour was used solely by horsemen) would have been the same as that protected by short muscle cuirasses; i.e. there would have been no deltoid or lower abdominal extensions, those areas being protected by *pteruges*. The new linking method had another, more important difference, in that whereas the earlier type could be penetrated easily by an upthrust, a considerable danger to a mounted man engaging footsoldiers armed with spears, now the scales were locked down.

This did not preclude the continued manufacture of the simpler form of scale armour, indeed the latter was extended to include horse armours; two specimens of 3rd century date, from Dura Europos, are of linen coated with, in one case bronze scales, in the other, iron. As they stand,



Two views of the author's reconstruction of the Mainz bronze legionary helmet with cheek-guards restored.



the armours provide only partial covering for the animal they were designed to protect, leaving the head and breast exposed, and it is presumed that originally there were other parts, which await discovery, designed to cover those areas.

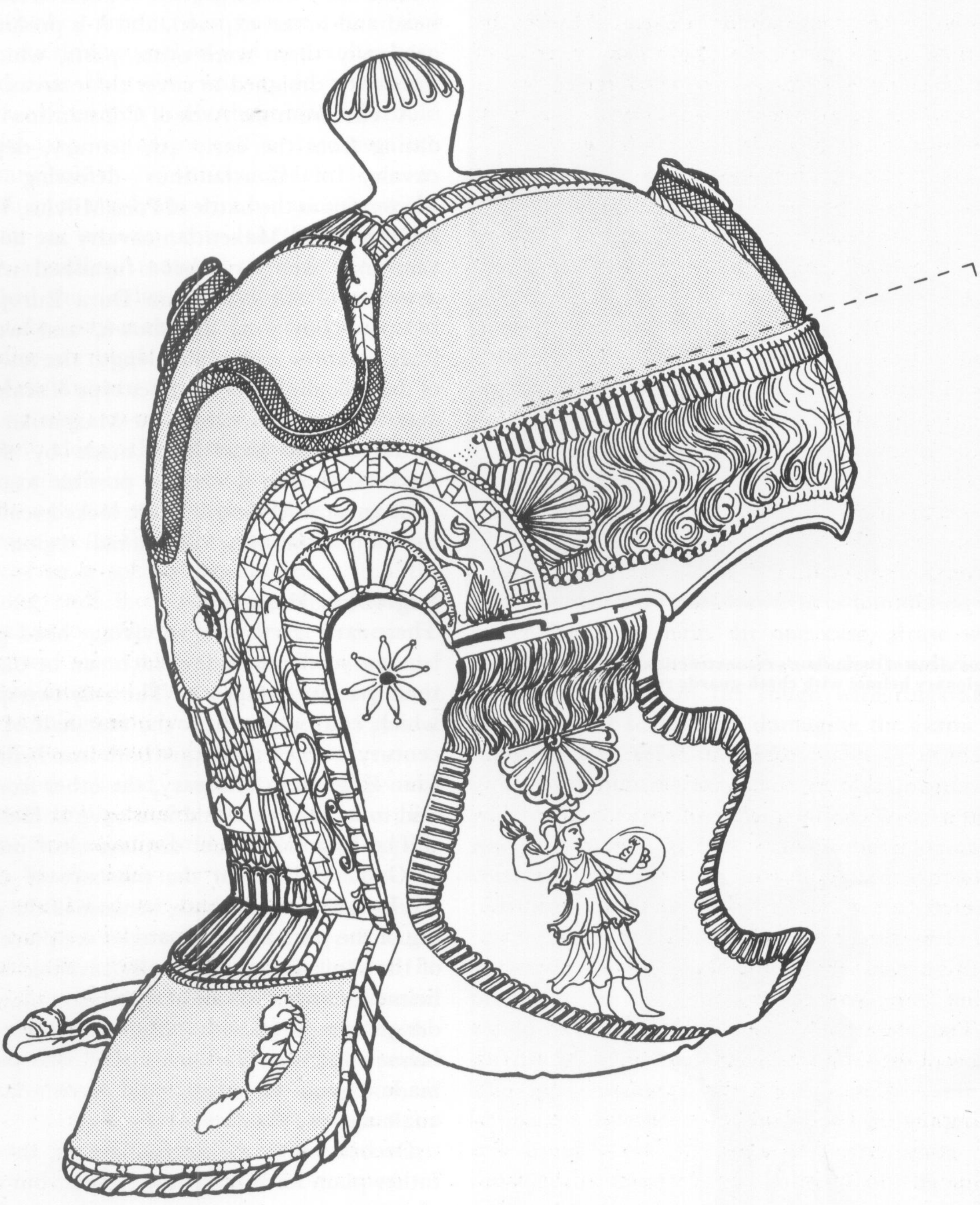
A relief from the Arch of Constantine in Rome, dating from the early 4th century, depicts the cavalry of Constantinus defeating that of Maxentius at the battle of Pons Milvius. While the mounts of the Maxentian cavalry are not shown, they may well have been furnished with scale armours of the type from Dura Europos. The troopers, however, are shown, and wear long scale defences with elbow-length sleeves. Because of the inflexibility of the later type of scale linkage described, the defences of the Maxentian troopers would clearly have been made by the older method; though it may be possible to construct such an armour and include locked scales about the thorax and upper abdominal region.

Legionary Helmets

There are very few surviving head-pieces of legionary infantry type which can be dated later than the 1st century A.D. The only two specimens which can be dated to the first half of the 2nd century with certainty are both iron helmets; one from Brigetio in Hungary, the other from Israel, said to have been found in a cave at Hebron.

The Brigetio helmet displays clear indications of Gallic descent in the presence of embossed 'eyebrows', though these, because of the positioning of the peak at a high angle, are placed on top of the skull and are virtually invisible when the helmet is worn. The most significant alteration in design compared with earlier Gallo-Roman iron helmets lies with the neck-guard, that part being made a good deal larger and given a far steeper angle against the nape of the skull.

Decoration in the form of bosses, though of a rather plain form, was also present, but only two of these were placed on each cheek-guard; normally we find three or four in that region. An almost identical cheek-guard was recently excavated at Chester (Deva); though it has a slighter neck-flange, the similarity in pattern and workmanship is unmistakable, even down to the use of only two decorative bosses of plain type. So closely alike are they that their origin must lie in



A 3rd century cavalry helmet found at Heddernheim. The helmet is of iron, with embossed and engraved bronze skinning; in this drawing the toned areas are exposed iron. Helmets of this quality are associated with the cavalry regiments *(alae)*. The position of the peak, now lost, is indicated by the dotted line.

the same workshop, if not from the same hand. Another tell-tale feature occurs in the method of applying the bronze piping. Instead of fitting the channel in one piece, the length from the rear of the hinge down to the corner below the ear recess is separate, and overlays the remainder as it continues down towards the neck-flange.

The crest fastenings have entirely disappeared from the skull but would, no doubt, have been of the standard Gallic type—a crest stand slide on top of the skull secured with four rivets, with fore and aft ring fastenings to take ties from the ends of the crest. Helmets of Italian origin, where a similar type of crest was used, were fitted with hooks instead of rings, though the practice of wearing brush crests seems to have ceased by the 2nd century with helmets of Italian manufacture. Perhaps the decline of this practice may be witnessed by the highly ornate Italic iron helmet of the second half of the 1st century from the River Rhine at Mainz. The helmet is fitted with a large circular stand holder where broad, flat crossbands of thin bronze meet at the top of the skull, but apparently no provision was ever made for crest ties.

The iron helmet said to have been found at Hebron is very different from the Brigetio specimen, though it cannot be said to be any better or worse in quality of manufacture. The most striking features of the helmet are the crossed iron reinforces of half-round section, riveted to the skull at their extremities. In the quarters thus formed, thin bronze lunar ornaments are soldered to the skull, and bring pleasing relief to the mass of the iron.

The elaborately decorated band round the brow of the skull was made from thin bronze with a laurel design, probably produced by die-stamping on lead. Unlike the similar feature on all other extant helmets, the brow band was soldered to a strip of iron attached to the skull, which would certainly brace what was a rather weak area; for although the right-angle of the peak stiffens the frontal part to some extent, the brow edge could suffer damage if a blow was not stopped by the peak, which was the latter's primary function. The peak itself is of iron, flanged downwards round the exposed edge, and has a strip of thin bronze soldered to the vertical edge formed by the flange. This was also decorated, with circles of small, spaced dots and plain low bosses; similar punched dots also appear on the lunar ornaments as a border with a circle of them at the deepest point of the ornaments.

Another unusual feature of the Hebron helmet is the presence of three steps in the neck-guard, whereas two are normally encountered. There may well have been a carrying handle attached, but unfortunately there remains no evidence of such a fitting, owing to the disappearance of the central area of the neck-guard.

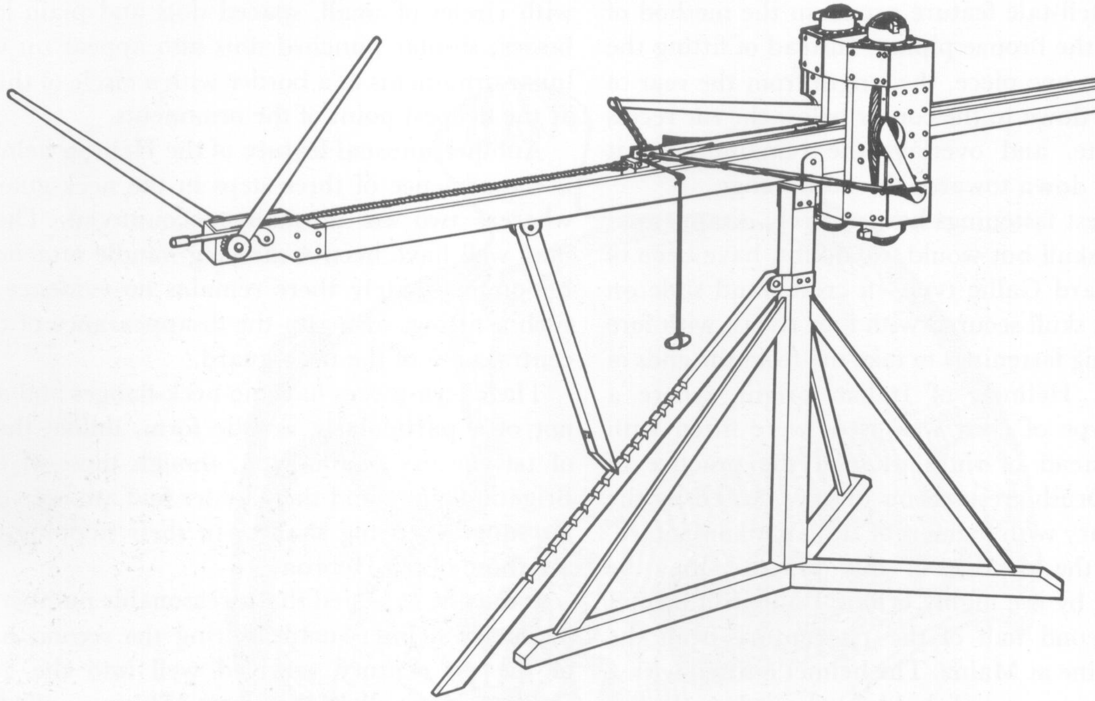
The cheek-pieces have no neck-flanges and are not of a particularly artistic form, unlike those of 1st century Gallic type; though those of the Brigetio helmet and the Chester find are not very far superior, being shallow in their stepping, as are those of the Hebron.

It may be expected that a reasonable number of legionary helmets made during the second half of the 1st century survived well into the 2nd century, especially if they were of bronze, like the example recovered from the Rhine, also at Mainz (see author's reconstruction). This helmet is of particular interest in that it bears inscriptions on the neck-guard giving the name of the legionary to whom it belonged, his centurion and the legion with which he served.

The quality of workmanship left much to be desired, which is not normally the case with helmets of Gallic type, which were, generally speaking, superior to those of the factories of Italy.

The brow band, decorated with simple reeding, never fitted the skull properly, the brow edge protruding below it on the right side. Making such items myself, it is not hard to understand why this was so; to fit the band to a surface which slopes at the front and is vertical at the sides is necessarily difficult, and a vertical curve cannot be achieved with hammering without destroying the reeding, however simple. Such a curve can be introduced by heating the strip and plunging it on one edge several times; but this is a fairly lengthy business which the Romans, in their apparent haste, probably considered superfluous effort. No doubt they did their best within the time available, and as long as the helmet was functional such poor workmanship would be permissible.

The skull of the helmet is quite tall against most



Reconstruction, after Peter Connolly, based on the remains of a 'scorpion' catapult discovered at Ampurias in Spain.

others, which allowed plume-tubes with back-plates to be attached to the sides and remain upright. The tubes were most probably soldered in position prior to riveting, the forward parts of the back-plates being held by the peak rivets and flat-headed rivets to the rear parts. The eyebrows, of broad form, were neatly executed in comparison to the rest of the piece, and provide its most pleasing feature.

Apart from one complete plume-tube and parts of the other, the crest fixings have disappeared, and from the survival of the plume-tubes it cannot be said that those fittings were removed deliberately. A circular patch of solder on the crown of the skull shows that the helmet was most probably fitted with an Italic type of crest stand holder, this being a circular plate with a raised central area, slotted to receive a 'T' piece on the lower end of the crest stand; the stand was placed in the slot and then given a half turn to engage the 'T' piece. Whether the holes present in the skull, obviously intended for crest-tie fastenings, held rings or hooks, cannot be stated with any assurance; for here is a helmet, Gallic in its conception, but most probably fitted with a stand holder of Italic type.

The cheek-guards have not survived; those shown on the reconstruction are modelled upon contemporary bronze pieces, but worked to a known iron pattern which better suits the particular skull form.

The neck-guard is slightly cut back at an angle from the ear recesses and displays the more common form of stepping at the base of the nape. The piping of the edge was secured by two bronze strips, fastened with large flat-headed rivets decorated with incised circles. An iron cheek-guard of contemporary date bears, as part of its decoration, identical incised rivets; but whether or not the original cheek-guards of the Mainz bronze helmet were furnished with similar objects cannot be known until either a complete helmet of the type, or a cheek-guard of the same breed with such ornamental rivets, is found. Plain though the helmet appears, once crested with brush and plumes it would surely have been worn with pride.

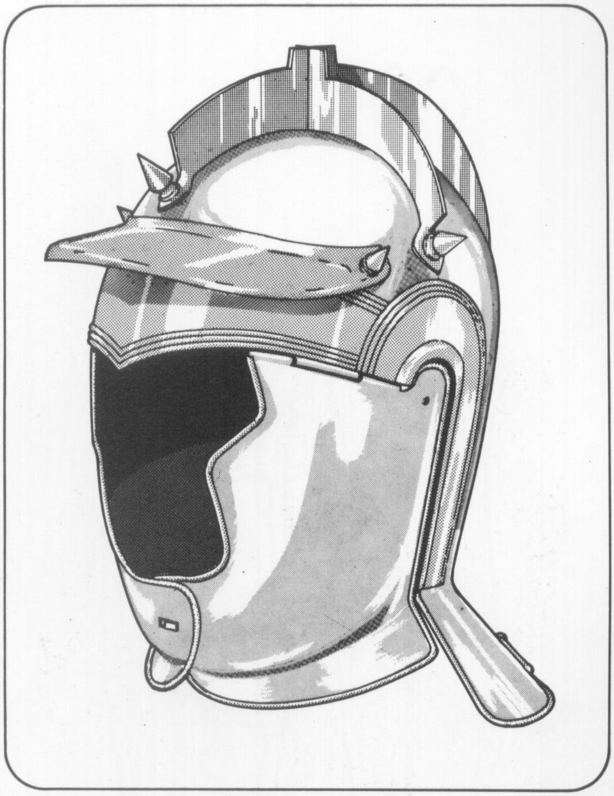
Representative of the late 2nd to early 3rd centuries are two helmets: one thought to have been found at Niedermörmter near Xanten, and a second from Hessen.

The Niedermörmter helmet, which can fairly be described as bizarre, is made entirely from bronze and is in a remarkably good state of preservation although, regrettably, it lacks its cheek-guards. The elaborate decoration is pearled bronze strip soldered in position, and several parts of the piece are worked with a variety of creatures, mythical and otherwise, and also several standards. The latter type of decoration was executed by stamping the areas of the figures to compress the molecular structure of the metal and thus lower their level below that of the background; the designs were then given more definition by pouncing their extremities with a very fine point. It does not appear to have been the armourer's intention to fill the lowered areas with black niello, and no attempt to do so is visible.

The skull is as deep as a cavalry head-piece, but was evidently of the infantry—an inscription on the vertical edge of the peak makes that fact clear. Apart from other structural features of infantry type, the helmet also bears what would seem to be legionary symbols. The neck-guard displays two 'L' shapes, one either side, and a *tabula ansata* beneath the carrying handle.

Such devices may possibly have been derived from earlier legionary shields (the *scutum*), which so clearly identified the 'citizen' soldier. Many of the shields of the late Republic were fitted with boss-plates (butterfly bosses) which covered the hollowed timber *umbo* or pocket, which received the hand, and it may be that the dovetailed securing 'wings', either side of the almost tubular covering plate, became symbolic. The same may apply to the 'L' shapes, which appear to be derived from the 'washers' on the face of the *scutum* which provided strengthening to the back-bracing of the shield near to the corners.

Though the evidence is insufficiently substantial, it may be that the use of the *tabula ansata* was extended to the more powerful cavalry regiments of the 3rd century; the fine trooper's helmet of that date from Heddernheim has an applied plate beneath the carrying handle, but the dovetails are no longer visible, if indeed they were ever present.

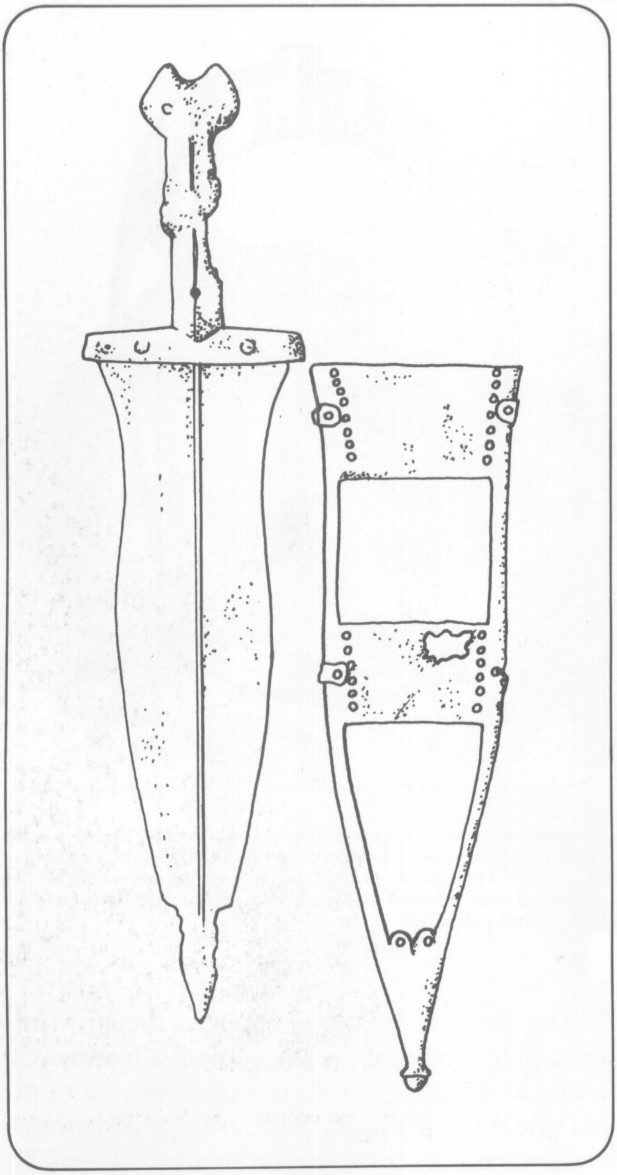


Reconstruction of a 2nd century iron cavalry helmet with crossed reinforces of bronze; the original is in the Frankfurt Museum. The cheek-guards were hooked together at the chin and only opened sufficiently to allow the helmet to be put on and taken off.

The second infantry helmet, though little enough of it remains, is of iron with a fragment of a moulded bronze reinforcement adhering to the left side of the skull, which formed part of a crossed reinforce similar to that of the Hebron helmet. The helmet is also of greater depth in the nape than those of the earlier part of the 2nd century, but differs from the Niedermörmter specimen in that the neck-guard is considerably smaller.

Auxiliary Helmets

Considering the numbers of helmets that must have existed, pitifully few specimens of auxiliary infantry head-pieces have survived. It does not appear that helmets for that class of soldier were ever made from iron, or at least, no extant example of an iron helmet can be definitely identified. Those made from bronze, of 1st century date, doubtless continued in service during the 2nd century and quite probably for as long as such



The remains of an iron sidearm and iron-framed scabbard, found at Copthall Court, London, and dated to the 3rd century. Such weapons may have been carried by the infantry section of a *cohors equitata*.

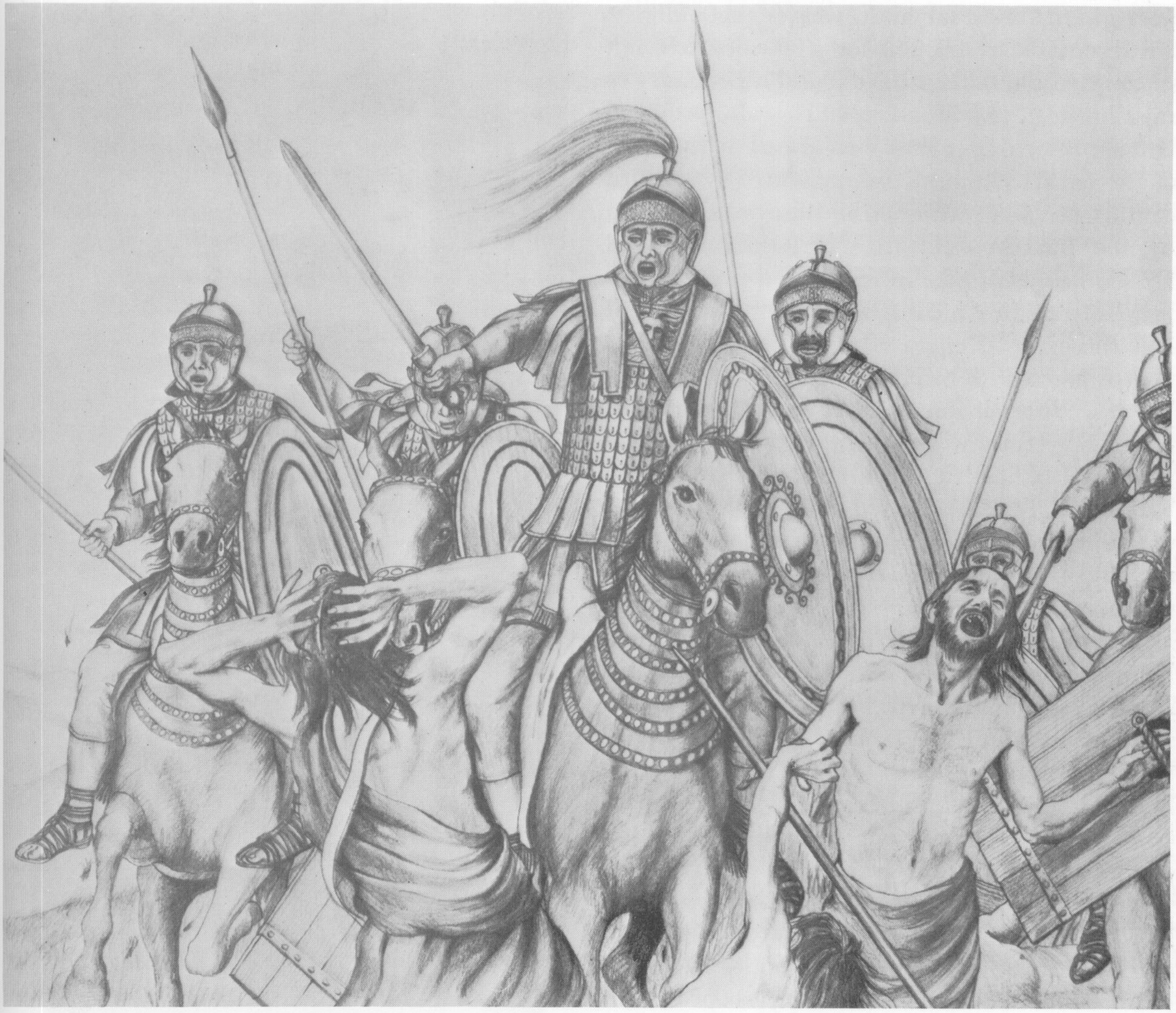
pieces remained functional. A good sturdy specimen was recovered from the Rhine, again at Mainz, and though a very plain piece, as one might expect for soldiers of the lowest order, it is complete.

The skull is of a sensible depth, the maximum of all infantry helmets of the 1st century, and has a fairly large neck-guard which simply curves into the ear recesses instead of being taken out to corners as with legionary helmets. The peak was made from quite heavy bar and was taken all the way back to the ear recesses at the sides.

The helmet shows no signs whatsoever of having been provided with crest mountings, hooks or rings, which conforms to the theory that the auxiliary infantry wore no crests; a theory which is possibly belied by a find from Noord-Brabant, Holland. The latter helmet, which displays clear signs of having been made by the 'spinning' process, is crude in the extreme, and surely no self-respecting legionary would have tolerated such poor equipment. The neck-guard, with a very thin outer edge, bears punched inscriptions giving the names of two centurions, but no other information; this fact may more definitely point towards auxiliary ownership, since legionaries normally included their own names and sometimes that of their legion. However, the skull carries not only fore and aft crest tie hooks, but plume-tubes as well. Presumably there was also some manner of crest stand holder on the crown, no doubt of equally wretched quality as the rest of the piece.

The helmets of the infantry section of a mixed cohort (*cohors equitata*) in the 2nd century were apparently a little more complex in their structure. The remains of a bronze skull thought to belong to that class, though incomplete, shows crossed reinforces over the crown of similar type to those of the cavalry of the same period, differing only in that they terminate at the same level. A peak of relatively thin metal, but of deep plan, suggests a helmet mid-way between infantry and cavalry; although the nape of the skull and the neck-guard are no longer present (they were thought to have been removed at a later date) the helmet most probably saw service with the type of unit suggested.

Whether or not the western provinces of the Empire ever supplied archers (*sagittarii*) for service with the auxilia is not clear; the only surviving evidence shows the employment of men from the eastern Mediterranean region, where that skilful art had long been practised in war. Two helmets which are most probably those of archers survive, one from Yugoslavia and a second found recently in Bulgaria. Both helmets have lost their neck-protectors, which would have been constructed from either scales or lames; in both



Author's impression of 3rd century cavalry engaging barbarians north of the Wall.

cases the fabric or hide, upon which the metals were mounted, has rotted away, and apart from construction holes in the rear edges of the skulls, no trace remains. The skulls are of conical form with embossed decoration and had cheek-guards, one of which survives on the Bulgarian find.

Equipment of this kind clearly reflected the origin of the particular unit, and it appears that efforts were made to maintain that visual identity. However, it would not be without reason to state that when new armour was required by a unit stationed far from home and replacements were made by local armourers, the original appearance would have been partially lost. Both the specimens support this; their basic form is not Roman, but their decoration, in both style and content, is decidedly so.

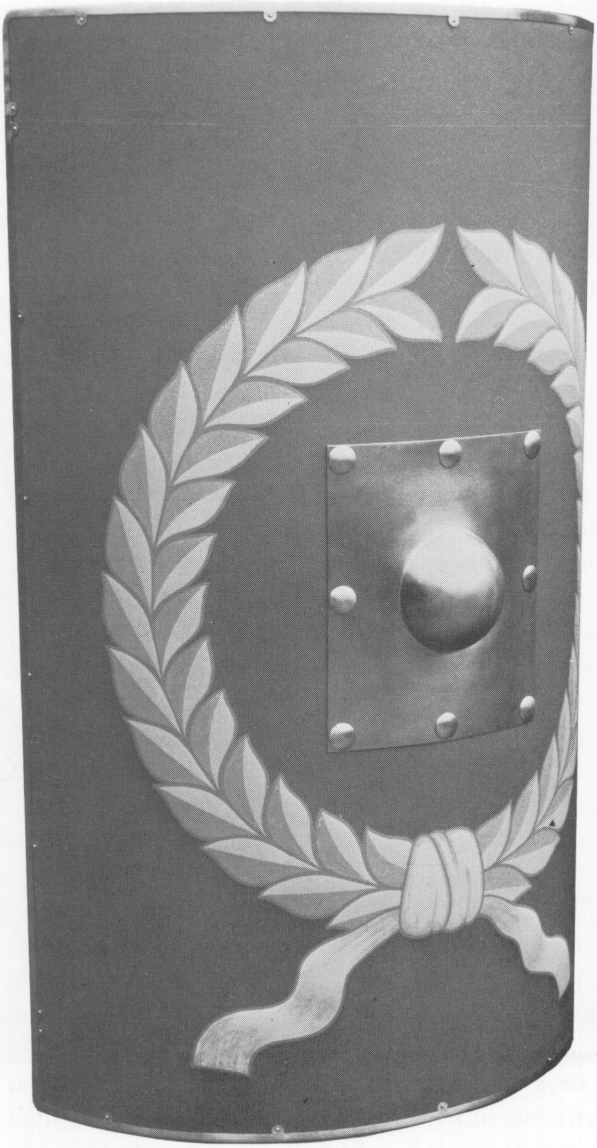
Perhaps the most noticeable design alteration between 1st and 2nd century auxiliary armour occurs with cavalry helmets. The first half of the 2nd century saw the introduction of magnificent and awe-inspiring deep iron helmets with crossed reinforces of bronze, secured with conical or pear-shaped rivets which added to the terrifying appearance of these pieces. The cheek-guards which covered the ears, as had those of the 1st century, also overlapped in front of the jaw and were fastened by a hook and slot device instead of a leather tie.

Because of the extreme depth of the nape, the neck-guard almost sat on the wearer's shoulders—an acceptable restriction for a cavalry trooper, since he would seldom have found it necessary to raise his head to a high angle. This also provided better protection against cuts aimed at the nape of the neck by mounted opponents (by the 3rd century the same restriction had also been accepted by the infantry—cf., the Niedermörmter and Hessen helmets). Like infantry head-pieces, these helmets were provided with carrying handles and had the exposed edges of the cheek- and neck-guards piped with bronze.

A less costly version, made entirely from bronze, ran concurrently with the iron type and, being a good deal plainer in appearance, it is considered to have been the type issued to the cavalry section of a *cohors equitata*; the equipment and pay rates of such a cohort were inferior to those of the cavalry regiments.

The question of cresting for cavalry field helmets remains problematical. For many years it has been considered that only the masked helmets used in the *hippika gymnasia* (cavalry sports) were furnished with crests, there being no evidence to suggest otherwise. Quite recently, however, a well-preserved example of a mid-2nd century iron field helmet was discovered and found to be fitted with bronze plume-tubes, one either side of the transverse skull reinforce. While no special fittings for the attachment of a central crest of either horsehair or feathers was present, it is extremely unlikely that such a crest would not have been employed in conjunction with the side-plumes.

As yet, the sole source of information that may show a field helmet with a crest is the 1st century grave stela of the *signifer* Flavinus of the cavalry regiment 'Ala Augusta Gallorum Petriana Milliaria Civium Romanorum', who died aged twenty-five years, while that memorable unit was stationed at Corbridge, Northumberland. The stela, though somewhat disfigured, clearly shows the young man wearing a helmet with a central hair crest and double side-plumes. Though it has been suggested that Flavinus is, in fact, portrayed wearing a masked sports helmet with normal cresting, the evidence for that theory is insufficient and the fittings on the 2nd century specimen raise doubts. Assuming the latter find followed what appears to have been normal cresting procedure, a central crest would have been so constructed as to fit over the longitudinal skull reinforce and would have been tied off to the conical rivets at its extremities. Regrettably there is no surviving evidence, though it may be hoped that the site of the fort of Petriana, Stanwix near Carlisle, where Flavinus's regiment served after the 1st century, will one day yield up the truth.


Reconstruction by the author of a straight-sided *scutum*, the final shape of such shields. Subsequently the bronze edging was abandoned, being replaced by rawhide by the 3rd century.

In the late 2nd to early 3rd centuries, far more elaborately decorated cavalry helmets were being produced, obviously at very much greater expense than their predecessors: perhaps evidence of the rise in importance of the cavalry regiments as a highly mobile striking force, rather than mere guardians of the legions' flanks.

A very fine example of such a helmet was found at Heddernheim and provides us with a glimpse of what a spectacular sight a Roman cavalry regiment must have been in its full panoply. The helmet is of iron with applied thin bronze sheet, most delicately embossed and engraved. The decoration includes the use of a feather pattern known to have been used much earlier by peoples in the region of present-day Bulgaria (ancient Thrace) and it is possible that helmets bearing patterns of that kind belonged to cavalry regiments originating from that area. The skull also bears four serpents, which rise up to support a square-based anther, pierced at the top to receive a cresting of uncertain type; plumes or a hair tail seem to be most likely. The peak has been lost; however, the notch at the base of the forward serpent, just above the brow-plate, remains to confirm its original presence.

Cavalry Sports

One of the most interesting, if perhaps not fully understood, aspects of the Roman military is the 'sports' or 'games' in which the cavalry regiments indulged. Unlike other Roman forms of entertainment, these were not intended to be bloody, but displays of equestrian and combat skills, closely paralleled by the practice of 'tent-pegging'.

The Romans, who never did anything by halves, evidently took the business very seriously indeed, to the extent of manufacturing large quantities of highly ornate equipment for that purpose. They probably regarded the sports as important in two ways: as a means of impressing upon conquered peoples, by sheer spectacle, their power and resource; and as a morale-raiser for the troops. Such a cavalcade of richly armoured horses and men—who in their masked helmets with silvered faces looked like divine beings—would doubtless have overawed an ignorant populace, if not terrified them; and one wonders if this was not, perhaps, the main reason why the Romans were willing to go to such enormous expense over what might seem today to be relatively trivial amusement. Whether or not the sports had any religious significance is not known, but it seems unlikely.

The actual sport or game may have been of Greek origin, with the participants split into two teams—Greeks and Amazons—wearing helmets which identified their gender. The armours did, of course, have a practical value and were not merely decorative, since the game included the throwing of dummy javelins at target troopers, who could easily have been badly injured. The same kind of protection was afforded to the troopers' mounts. Both leather and bronze chamfrons were used for this purpose, though it appears that leather, heavily decorated with studs and fitted with elaborately pierced hemispherical eye-guards, were the more common type employed during the 1st and 2nd centuries A.D.

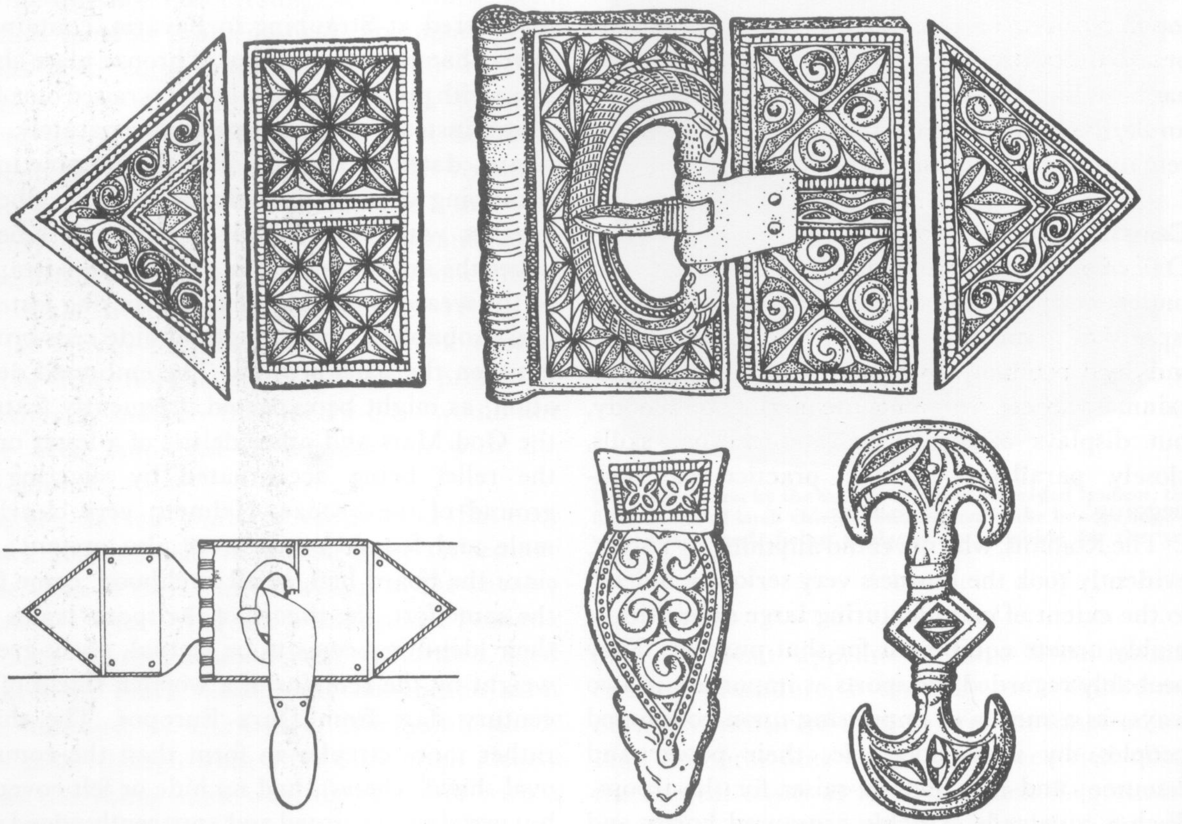
A remarkable hoard of sports equipment, discovered at Straubing in Bavaria, contains no fewer than seven specimens of bronze plate chamfrons with pierced eye hemispheres raised out of the plates instead of being attached separately. The hoard, dated to the 3rd century and now in the Straubing Museum, includes beautifully embossed greaves with hinged knee-guards and lobes to cover the ankle bones. The greaves were strapped to the wearer's legs by means of six ring fasteners and probably a single length of hide criss-crossed between the pairs of rings. The embossed decoration, as might be expected, frequently featured the God Mars and other deities of a lesser order, the relief being accentuated by silvering the ground of the bronze. Helmets, very clearly of male and female types, were also present; and since the hoard had, in all likelihood, come from the same fort, the theory of the sports teams and their identities seems to be factual, given greater weight by the remains of a wooden shield of 3rd century date from Dura Europos. The shield, rather more circular in form than the common oval shield (*clipeus*), had no hide or felt covering, but was simply painted and apparently edged with rawhide in the same fashion as the legionary shield from the same find spot. The supporting factor, as far as the sports are concerned, is that upon the red face of the shield are scenes depicting a battle between the Greeks and the Amazons. Unfortunately the shield no longer has its boss, but it would probably have been bronze with punched and engraved decoration, perhaps partly silvered.

Sports body defences in the 1st and 2nd centuries were probably the normal field corselets of mail, or less frequently scale armour, over which the trooper wore an embroidered tunic, no doubt of garish appearance. By the 3rd century special defences of locked scale with small embossed breast plates were being issued for the sports, the breast plates providing an opening in the front of the neck which was closed with a double turn-pin device. Since these small plates were decorated with embossing and silvering, it is unlikely that they would have been covered by an embroidered tunic as the rather drab mail shirts had been.

Swords

The site of the fort of Segontium on the hill above Caernarvon on the Menai Strait yielded a *gladius* of unusual type and uncertain date—possibly very late 1st century.

The condition of the weapon is very poor and it appears that the remains of a scabbard, still sheathing the blade, were removed by the finder. However, since the blade, now broken into two pieces, has suffered the worst corrosion approximately two-thirds of the distance from the shoulders, the scabbard was most probably of the 'Pompeii' type: i.e. a scabbard with separate locket and chape metals, with a length of exposed wood and leather sheathing in between, the latter giving the least protection to the blade during its



Bronze military belt fittings of 4th–5th century date, from various find sites.

centuries of burial.

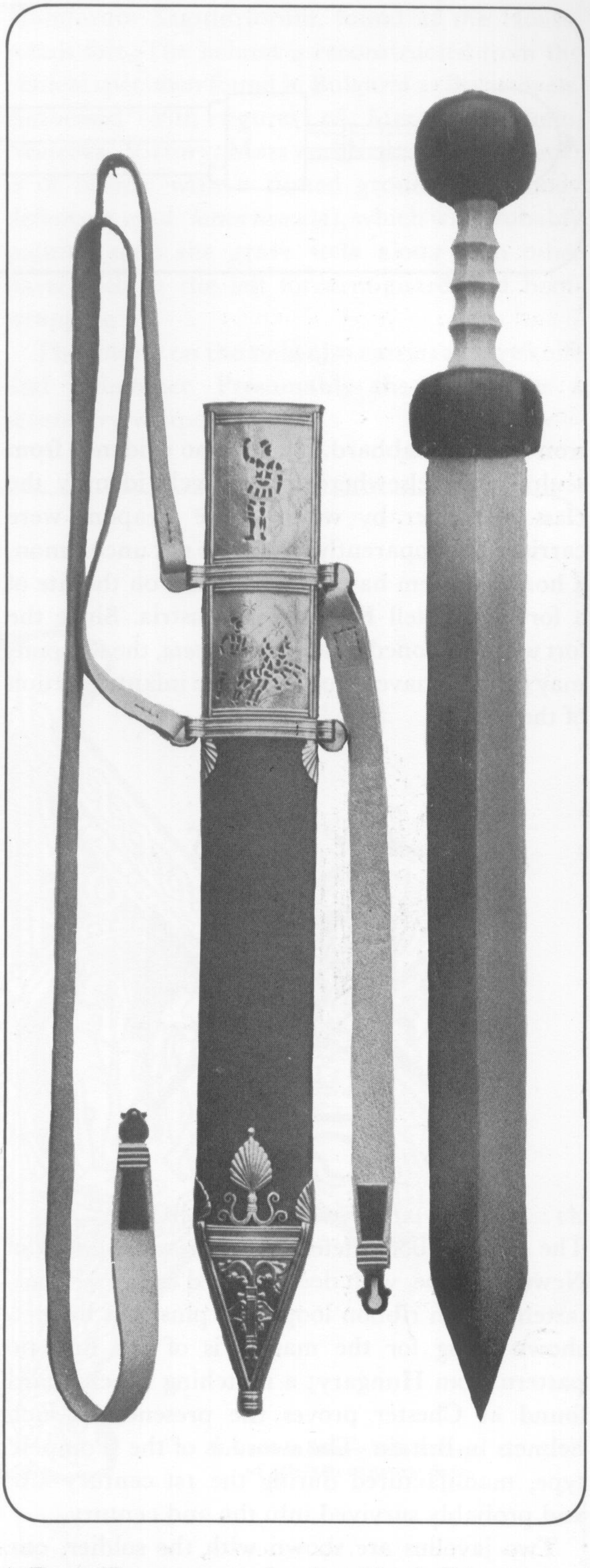
The striking feature of the find is the blade itself, which is, thus far, unique in that the upper half inch is of hexagonal section, while the remainder of the blade is of the normal flattened diamond associated with Roman swords. The hexagonal section projected slightly at the sides and was most probably for tightening the weapon into its scabbard.

The hilt parts are all of elephant ivory. The guard is almost circular in plan, the slight oval being dictated by the section of the tusk from which it was cut. The underside was recessed in the usual fashion; however, there is no trace of there ever having been a bronze guard-plate inserted, and it has been assumed that a pad of hide may have been used, or possibly hard wood. The hand-grip is not of the normal pattern; while the hexagonal section may be encountered elsewhere (Colchester Castle Museum), there are also three raised ribs in this case. It appears that the grip was split slightly at the upper end when the hilt parts were being mounted on the tang—this would have been caused by driving wooden slips down between the tang and the ivory. To cover the fault, a strip of tinned bronze was wrapped about the damaged area.

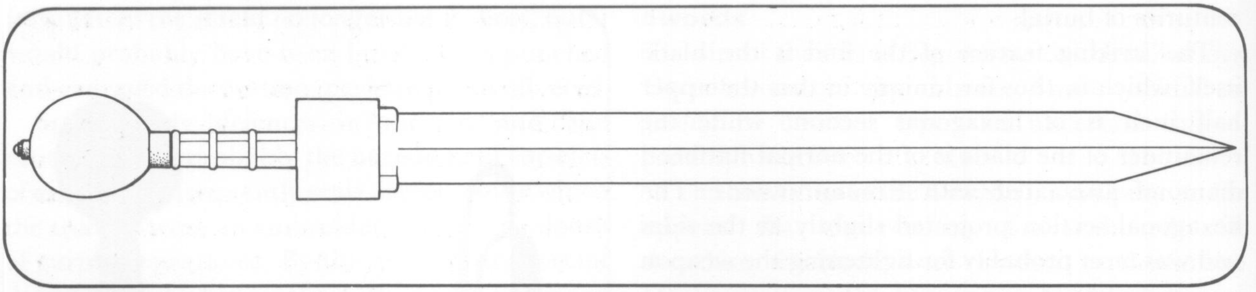
The irregularity of the pommel may have been caused in one of two ways: the ivory may have been badly drilled in manufacture, and since ivory was probably a valuable commodity as it is today, it was decided to use the piece nevertheless. Alternatively, sword hilts with a regular-shaped pommel of that pattern are uncomfortable to grasp with the arm extended; the pommel tending to obstruct the wrist. The removal of a portion of the pommel would certainly have eased the problem and this may well provide an explanation for what appears to be poor workmanship.

As the infantry became less and less important, so the quality of their sidearms declined and the Roman sword eventually gave way to barbarian influence, the *gladius* disappearing altogether.

The 3rd century saw the production of a curious pattern of sidearm in the form of an oversized dagger. The specimen from Copthall Court, London, measuring approximately sixteen inches in length—seventeen inches with its



A 'Pompeii' pattern sword and scabbard. This type was manufactured during the 1st century, but probably survived into the 2nd century. (Author's reconstruction)



Reconstruction of the *gladius* found at Segontium (Caernarvon) in Wales, and now in the University of Bangor Museum. The blade has a scabbard tightener at the upper end, and the hilt is of elephant ivory.

iron-framed scabbard. There is no evidence from sculpture or elsewhere to positively identify the class of soldier by whom these weapons were carried, but apparently they were not uncommon, a hoard of them having been found on the site of a fort at Kastell Künzing in Austria. Since the fort was garrisoned by a *cohors equitata*, the weapons may possibly have belonged to the infantry section of the unit.

The Plates

A1: Legionary infantryman, c.100–150 A.D.
The soldier's body defence is a *lorica segmentata* of Newstead type, with deep, riveted collar sections, fastened with ribbon loops and pins. His helmet, shown slung for the march, is of the Brigetio pattern from Hungary; a matching cheek-guard found at Chester proves the presence of such helmets in Britain. The sword is of the 'Pompeii' type, manufactured during the 1st century A.D. and probably survived into the 2nd century.

Two javelins are shown with the soldier, one loaded with a lead ball weighing approximately 3lbs and with a splice junction between the iron head and shaft; the other javelin is the lighter socketed type. If the legionary did, in fact, carry both these weapons in action, the loaded pattern was presumably used to break an enemy shield-wall; but it is not clear precisely how the secondary javelin was carried if such was the case, since it is virtually impossible to hold both a horizontal shield hand-grip and a vertical shaft in one hand at the same time.

At that date, legionaries no longer carried daggers on their belts, and the groin-guard or 'sporran' had been shortened against those of the 1st century. The sporran metals were also simpler, being merely cut from flat sheet.

The item shown on the kit-pole that was once thought to have been a grid-iron was, in fact, a reinforced satchel with handles, which may have contained tools, chain, rope, or any other item that the soldiers required for construction work.

A2: Centurion, c.100–200 A.D.
The officer wears a short bronze muscle cuirass with a breast panel embossed with the head of the Gorgon Medusa to ward off harm. Beneath the corselet he wears an arming doublet with a double kilt of *pteruges* over a tunic, probably of linen.

He also wears knee-breeches, which may have been called *feminalia*, not *bracae* as has been previously supposed. The word *bracae* appears to have referred to the long trousers worn by barbarian nations; *feminalia*, on the other hand, may be derived from the lesser known Latin word for the thigh, *femen.* Gaiters or coverings for the lower part of the legs were called in Latin *tibiale*, a word clearly derived from 'tibia', and thus the same may have applied to thigh coverings.

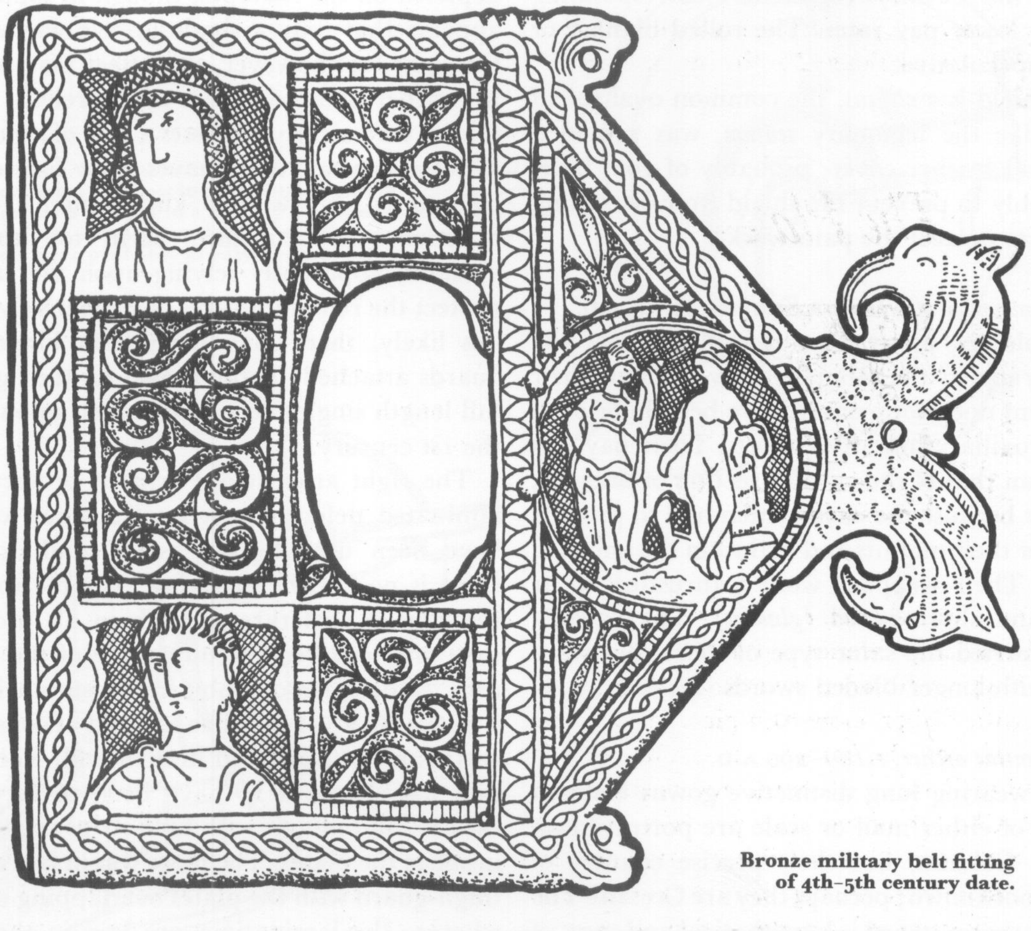
Therefore the suggestion that legionary infantry did not wear such garments may well be untrue, and their use may have depended upon climatic conditions.

In his left hand, the centurion carries a vine staff or *vitis*, the symbol of his rank, not unlike modern officers' canes—although the Roman officer was permitted to exercise physical authority with the *vitis*.

A3: Hamian archer, c.100–200 A.D.

The archer's equipment is reconstructed from a grave stela of a man who served with the I Hamiorum Sagittariorum, found at the Housesteads fort. The helmet is reconstructed from the conical specimen found in Bulgaria at Bryastovets. Embossed with figures of Mercury, Apollo, Minerva, Victory, Mars and Neptune, the helmet is of bronze with a tinned ground. The body defence is mail (*lorica hamata*), which was probably painted onto the grave stela along with other parts such as the left forearm-guard and boot-strapping.

The soldier on the stela also carries a large knife and a hatchet. Presumably the latter was a secondary weapon.



Bronze military belt fitting of 4th–5th century date.

B1: Trooper of a Cohors Equitata, c.150 A.D.

The trooper wears a deep bronze helmet with crossed reinforces—this type of helmet identifies the man's inferior status, as against the pure cavalry regiments. The body defence is mail, but is no longer fitted with a 'cape' or shoulder-doubling. He wears a short woollen tunic and *feminalia*, in the same fashion as cavalry of the 1st century.

Roman mounts were small, hardy animals, very similar to modern Fell ponies. The saddle is soft hide with single thin bronze plates inserted into each of the four horns. Since examples of these stiffener plates have been found to have the owner's name inscribed inside them, they were probably removable for storage of the saddle, which could then be rolled up. Decoration of the harness would, no doubt, have been simpler than that of the cavalry regiments—corresponding with the lower pay rates. The rolled blanket or cloak is speculative.

The shield is a *clipeus*, the common oval shield which, like the legionary *scutum*, was provided with a soft leather cover, probably of goat hide, presumably to prevent the shield from becoming wet and to protect the paintwork.

B2: Infantryman of a Cohors Equitata, c.150 A.D.

These soldiers, apart from irregulars, were the lowest grade in the Roman army, though their equipment does not seem to have been inferior to that of auxiliary infantry cohorts. Their pay was lower than that of the cavalry section of the unit, probably because the cavalrymen had to provide fodder for their mounts and maintain the animals' harness. Their weapons were a thrusting spear (*hasta*) and short sword (*gladius*). The cavalry section carried the same type of spear, but were armed with longer-bladed swords (*spathae*).

B3: Levantine archer, c.100–200 A.D.

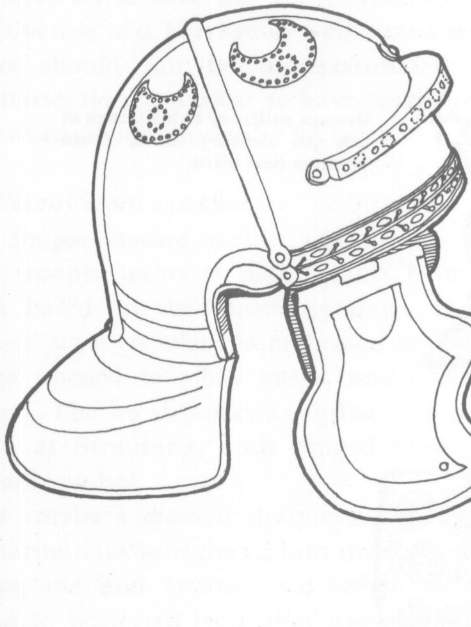
Archers wearing long distinctive gowns beneath corselets of either mail or scale are portrayed on Trajan's Column, but their precise country of origin is not known; perhaps they are Cretan? The bronze forearm-guard is hypothetical and most of the representations of archers do not show such a device; again, these may have been portrayed in paint which has subsequently disappeared. The corselet of scale shown here was much weaker than mail and could easily be damaged; however, scale defences were common in the eastern Mediterranean. In place of the Western 'shooting tab' used today to protect the fingers of the right hand, the archers of the Roman army wore a bone ring on the thumb to draw their sinew-backed bows, using a grip known today as the 'Mongolian release'.

C1: Legionary infantryman (eastern legions?), c.100–150 A.D.

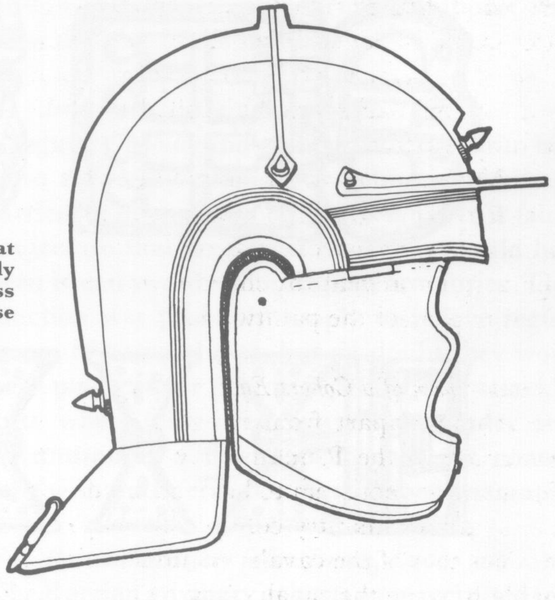
The soldier's equipment is based on the rather stylized portrayals of legionaries shown on the metopes of the Tropaeum Traiani at Adamklissi.

The scale defence is worn over an arming doublet which carries a kilt and upper arm defences of *pteruges*. Greaves (*ocreae*) are also depicted on the metopes, though in some cases it appears that only a single greave was worn, on the right leg; however, this effect may be due to the rather poor condition of the reliefs, and one soldier very clearly possesses a pair of leg defences. Whether or not the greaves were full length or terminated below the knee-joint is open to question; the sculptures seem to show short versions, apparently relying upon the *pteruges* to protect the remaining area. Alternatively, though less likely, there may have been hinged knee-guards attached. Those shown on the figures are full length single-piece types based upon those of the 1st century.

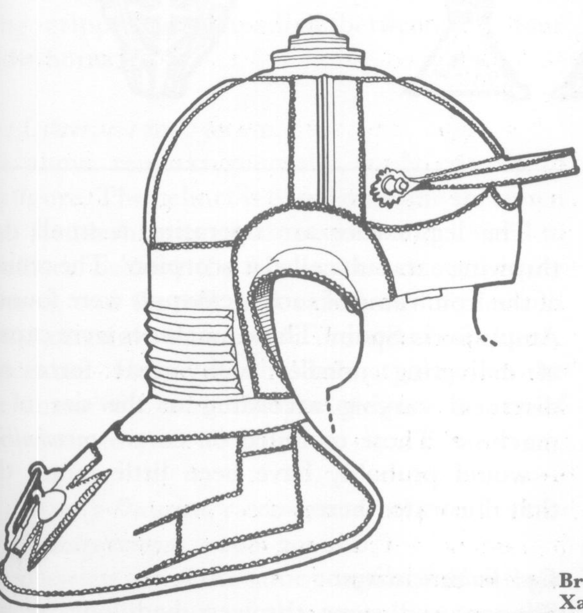
The right arm (sword arm) is protected by a laminated defence, a type of armour known to have been used by a class of gladiator. Alas, there is no known surviving example to explain the precise structure, though in all probability they only covered the outer side of the wearer's arm. A specimen of limb armour employing what is probably a very similar method of construction was found at Newstead in Scotland. Reconstruction has shown it to have been of very simple bronze laminations with hide strips riveted to the inside of the plates. The piece was in fact a cavalry thigh-guard with the plates overlapping upwards, whereas the laminations are laid in the reverse fashion on the metopes.



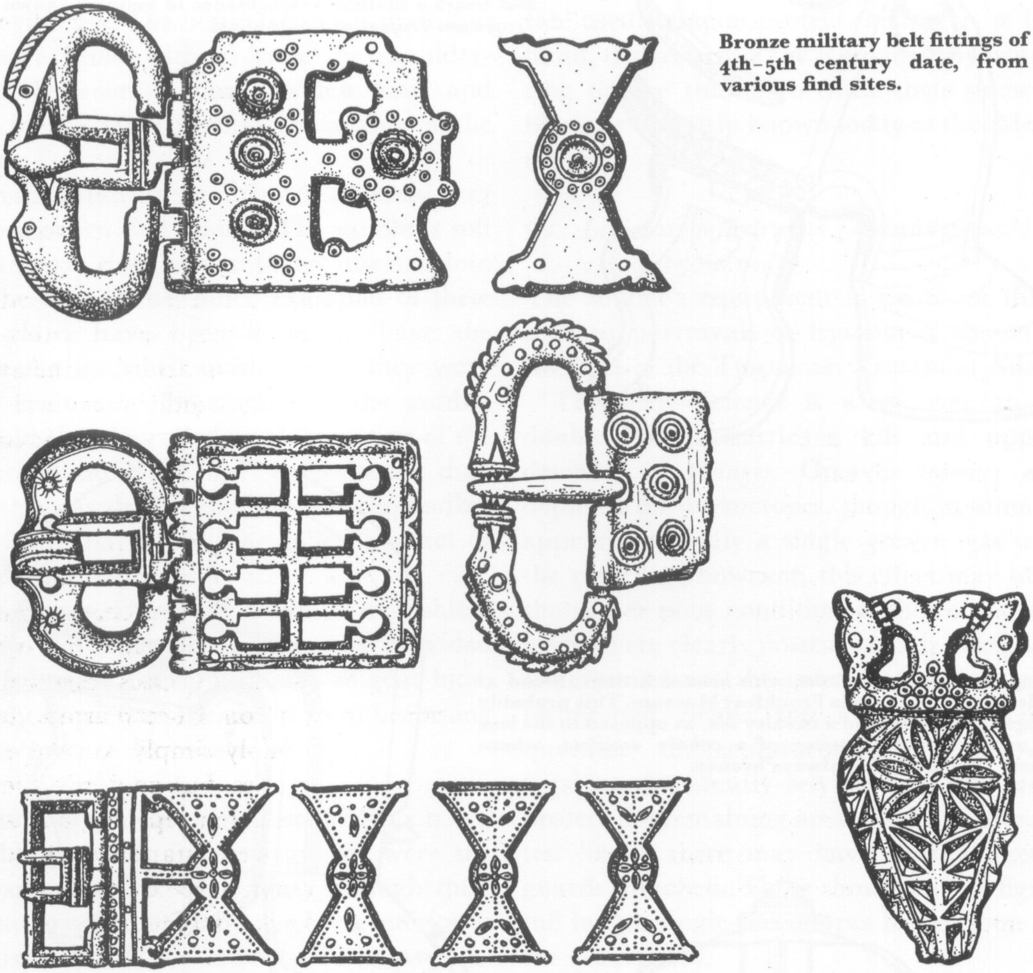
Iron legionary helmet with iron skull reinforcements and bronze decoration, now in the Israel Museum, Jerusalem. Dated to the first half of the 2nd century, the helmet was found at Hebron, Israel; it is probably of Italian manufacture, and bears a distinct resemblance to helmets shown on the *Tropaeum Trajani* at Adamklissi.



A deep iron cavalry helmet with bronze fittings, found at Heddernheim and now in Frankfurt Museum. This probably belonged to a trooper of a cavalry *ala*, as opposed to the less well armed cavalry section of a *cohors equitata*, whose helmets were probably always bronze.



Bronze legionary helmet found at Niedermörmter, near Xanten, Germany. Probably of early 3rd century date, it still shows traces of Gallic influence in the ribbing of the nape.



Bronze military belt fittings of 4th–5th century date, from various find sites.

C2: Legionary infantryman (eastern legions?), c.100–150 A.D.

The defences are very similar to figure C1, except that the soldier is wearing mail as a main defence instead of scale. His helmet is of the Hebron type, which is generally shown on the Adamklissi metopes. Other evidences from the reliefs show that loaded javelins were carried, and swords which lack the angularity at the point common to the 'Pompeii' type. The normal legionary *scutum* is much in evidence, though it appears that shields with curved vertical sides were present, as well as the final straight-sided development of the *scutum*.

The legionaries are operating a small dart-throwing catapult called a 'scorpion'. The remains of the iron frame of such a catapult were found at Ampurias in Spain. These machines were capable of delivering missiles with great force over distances varying according to the size of the machine. Those mounted on carts—*carroballistae*—would probably have been little larger than that illustrated here.

C3: Balearic slinger

Slingers and stone throwers had long been in service with the Roman army and their skills were obviously appreciated. Although at first sight such a method of fighting might appear too primitive for a force like the Roman army, the effectiveness of a barrage of well-aimed fist-sized stones should not be underestimated. These auxiliaries do not appear to have carried shields, but swords would normally be worn.

D: Cavalry sports equipment

D1: Dragon standard bearer, c.200–300 A.D.

This trooper wears a 'male' sports helmet, the mask based on the Straubing finds. His short 'locked' scale corselet has embossed breast plates which opened to allow entry, and defences of *pteruges*. The leg defences are greaves of the type found at Straubing, with hinged knee-guards, and ankle lobes.

He carries a *draco* or dragon standard, which the Sarmatians introduced into the Roman army during the 2nd century A.D. when auxiliaries began to be levied from that nation. The open mouth of the bronze head allowed the wind to fill the tapering tubular tail, while giving out an audible hissing sound.

The mount bears a chamfron and peytral (breast plate) from the Straubing hoard, in bronze with a silvered ground. The saddle was presumably the normal pattern, but it is shown here draped completely with a fringed cloth. It will be noted that the Romans did not use stirrups, the rider being gripped and steadied between the four saddle horns.

D2: Officer, c.170–230 A.D.

The above remarks generally apply equally to this figure. The helmet is based on a fine specimen from Heddernheim which may have belonged to an officer, because the face was never completely covered, and the tall crest raised out of the skull would certainly have made the wearer instantly noticeable. However, the helmet may be the forerunner of a common type of sports helmet of the 3rd century.

E1: Cavalry Decurion, c.200–300 A.D.

E2: Cavalry trooper, c.200–300 A.D.

The corselets are of the same construction as those of sports equipment of the period, except that there are no locking breast plates; the necessary neck slit would probably have been at the back, protected to an extent by the neck-guard of the helmet. The officer has an embossed breast plate, and shoulder-doublings of hide. He also has a double kilt of *pteruges*. The helmets, based on the specimen from Heddernheim, are of iron with highly decorated partial bronze skinning; the peak is restored. The unusually large neck flanges of the cheek-guards meet the neck-guard. The circular piercing in the top of the officer's anther may have held a hair tail as illustrated, or possibly plumes. Both men wear *spathae*, with a decorated 'wheel' chape to the scabbard. At this date these swords were suspended by means of a single bronze loop fitting on the scabbard face.

The neck (and hind quarters) of the mount are protected by heavily studded multiple straps; presumably there was a crupper support strap from the rear of the saddle.

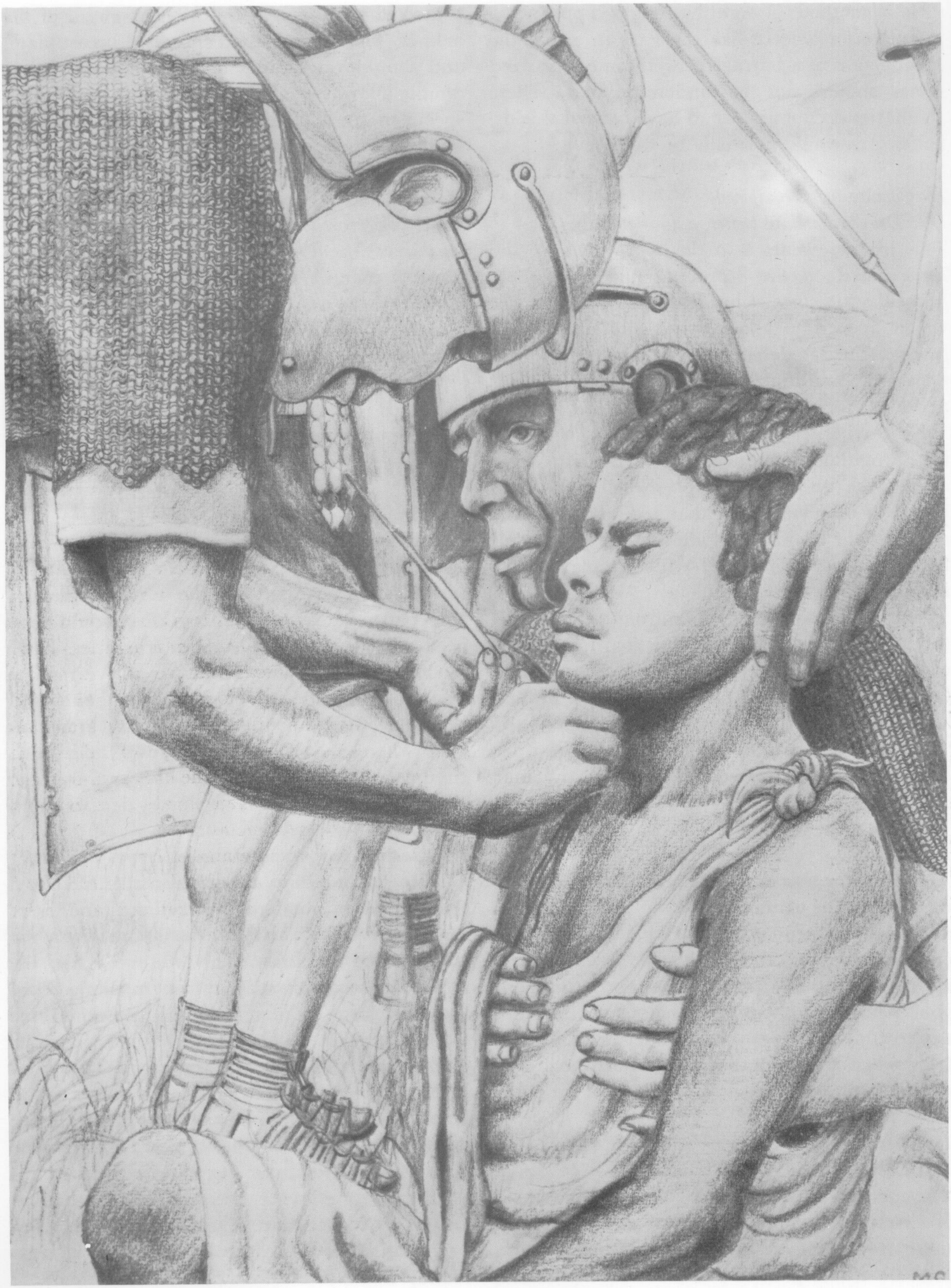
F1: Irregular scout, c.200–300 A.D.

Irregulars, *numeri* and *cunei*, do not appear to have worn any body defences or helmets, but simply carried light weapons of native type. It is fair to conjecture that on a local basis they would have been issued swords from Roman armouries. Their function was probably simply to relieve regular troops of patrol duties, but no doubt they would have played their part in repelling any attack on forts where they were stationed. Under such circumstances a flying spear does not concern itself with the finer points of military demarcation.

F2: Raetian auxiliary infantryman, c.200–300 A.D.

The Raetian auxiliary cohorts were recruited from the region of modern Switzerland and were sometimes armed with a distinctive throwing spear called a *gaesum*. This was very like the socketed Roman *pilum* apart from a point worked into two large, spreading barbs. So noticeable was the weapon that its name was included in the unit's title: a detachment serving on Hadrian's Wall was named the 'Vexillatio Gaesatorum Raetorum'. The association of this type of helmet, and the sword with its long scabbard chaped with a carved and cut-out bone fitting, with this auxiliary figure is taken from the surviving notes and sketches of the late H. Russell Robinson.

Quantities of Roman smithing tools have been found, notably at Newstead (Trimontium) in



Author's impression of *capsarii* tending a wounded Numidian cavalryman. The Numidians portrayed on Trajan's Column show that they wore no body defences, and their heads were only protected by braided hair.

Scotland. As in more recent times, Roman smiths probably made many of their own tools. Larger items, such as anvils and helmet stakes, do not survive; perhaps they were used by later armourers. A good example of an iron window frame can be seen in the Verulamium Museum, St Albans.

G: Officer, c.300–400 A.D.

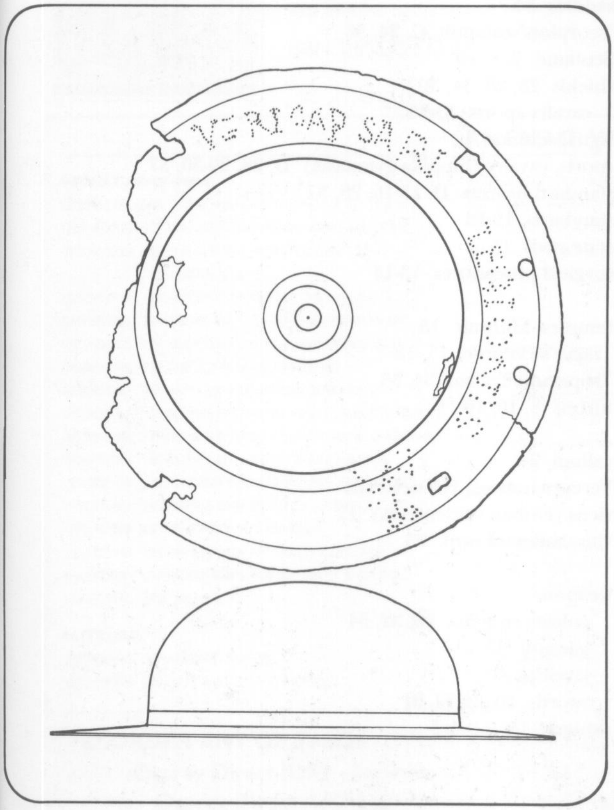
The officer's helmet typifies the cessation of manufacture of head-pieces of Gallic type. The example shown is based on a fine specimen from Deurne in North Brabant, Holland. A new method of construction was used for the underlying iron skull, that part being made in two halves. The skull was then sheathed with decorated silver and the nape of the wearer's neck protected by a small guard attached to the skull with leathers.

The corselet is a lamellar armour—narrow metal plates laid vertically and laced together with, in this case, probably rawhide thongs. Armour of such a construction had been in existence for many centuries; however, the Romans appear to have used the method only after the 2nd century. The triple layers of *pteruges* are a feature that appears in the 4th century, though sometimes these were only used for the upper arm defences, the kilt remaining double.

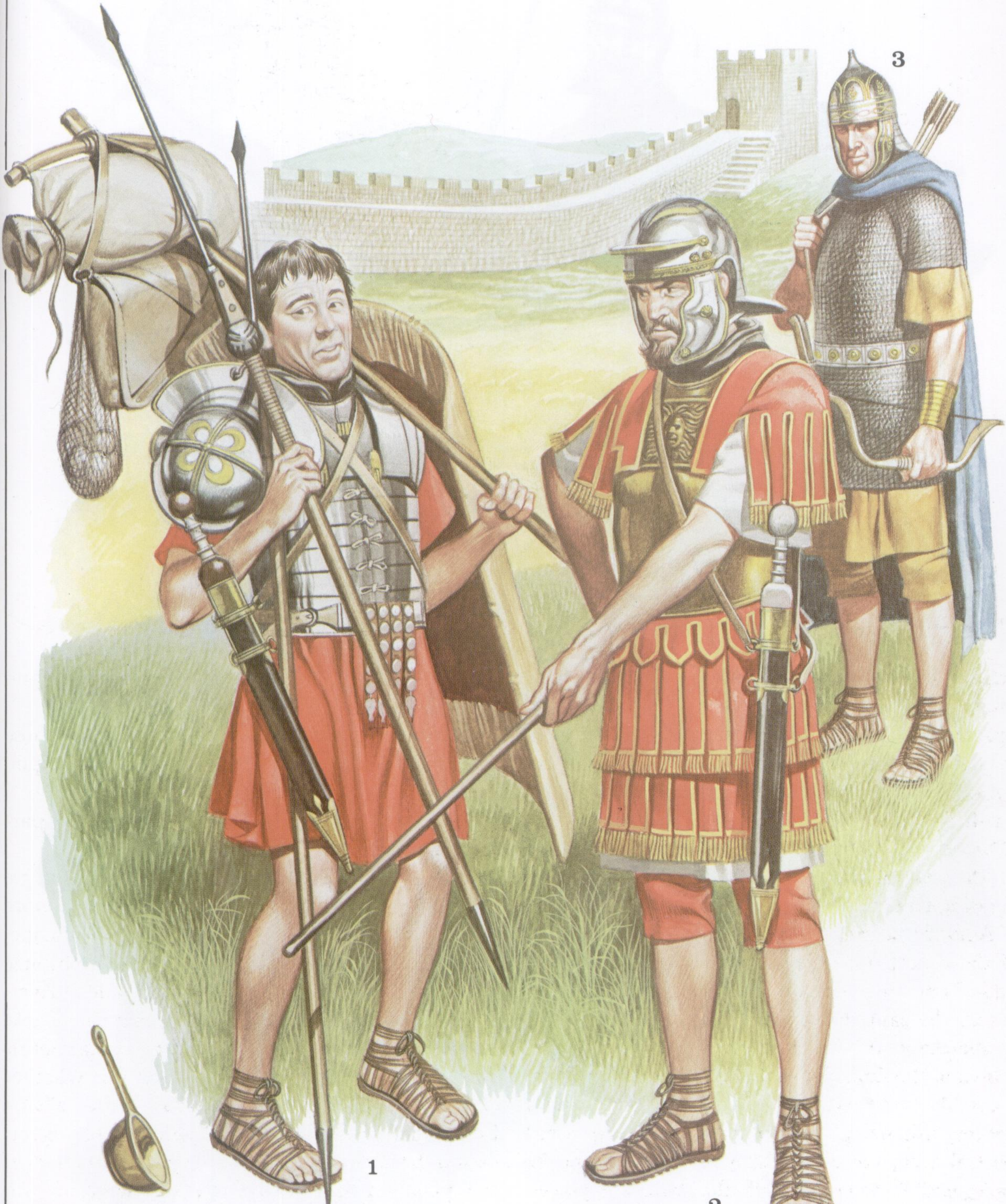
The sword is based upon the eagle-hilted sidearms portrayed on the statues of the Tetrarchs in Venice—these may have had double fluted blades. The officer's shield device is copied from an example shown in the *Notitia Dignitatum*, among several others in a drawing illustrating cavalry equipment.

H: Infantrymen, c.300–400 A.D.

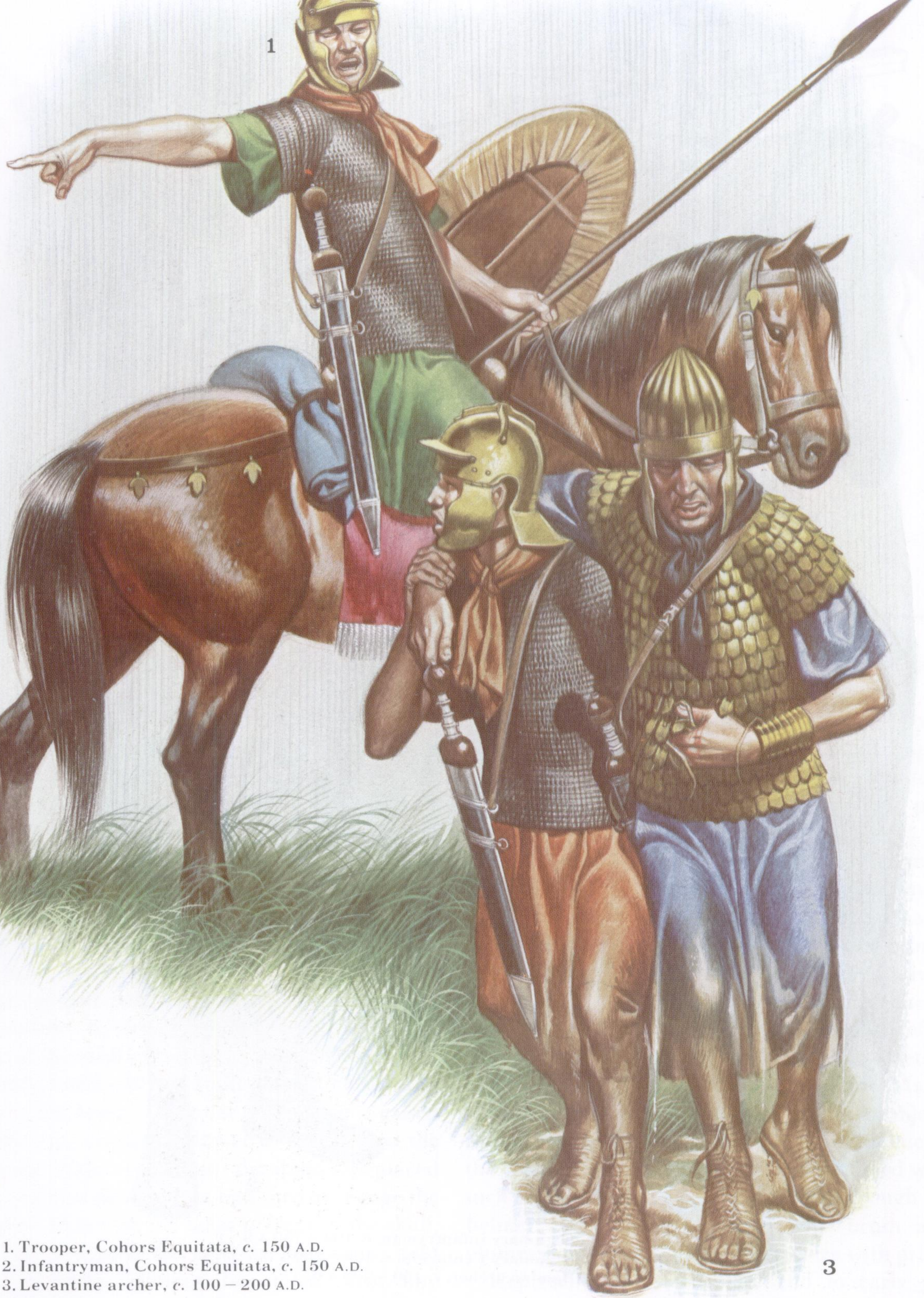
With the increasing flow of barbarians into the ranks of the Roman army, the practice of wearing body defences virtually ceased, protection being afforded by a large circular shield. Against heavy cavalry these soldiers had little chance of success, and many armies were destroyed because of this. The presence of 4th century mail at Caerleon in South Wales may indicate that in some areas body defences continued in use to some extent; however, there is no way of identifying the mail definitely as belonging to infantry or cavalry, and the latter is certainly a possibility given the known practice of continuing to arm Roman cavalry heavily as a counter to mounted enemy forces. The helmets illustrated, and the details of the shield and scabbard chapes, are associated with infantry of this period in the surviving sketches of the late H. Russell Robinson.



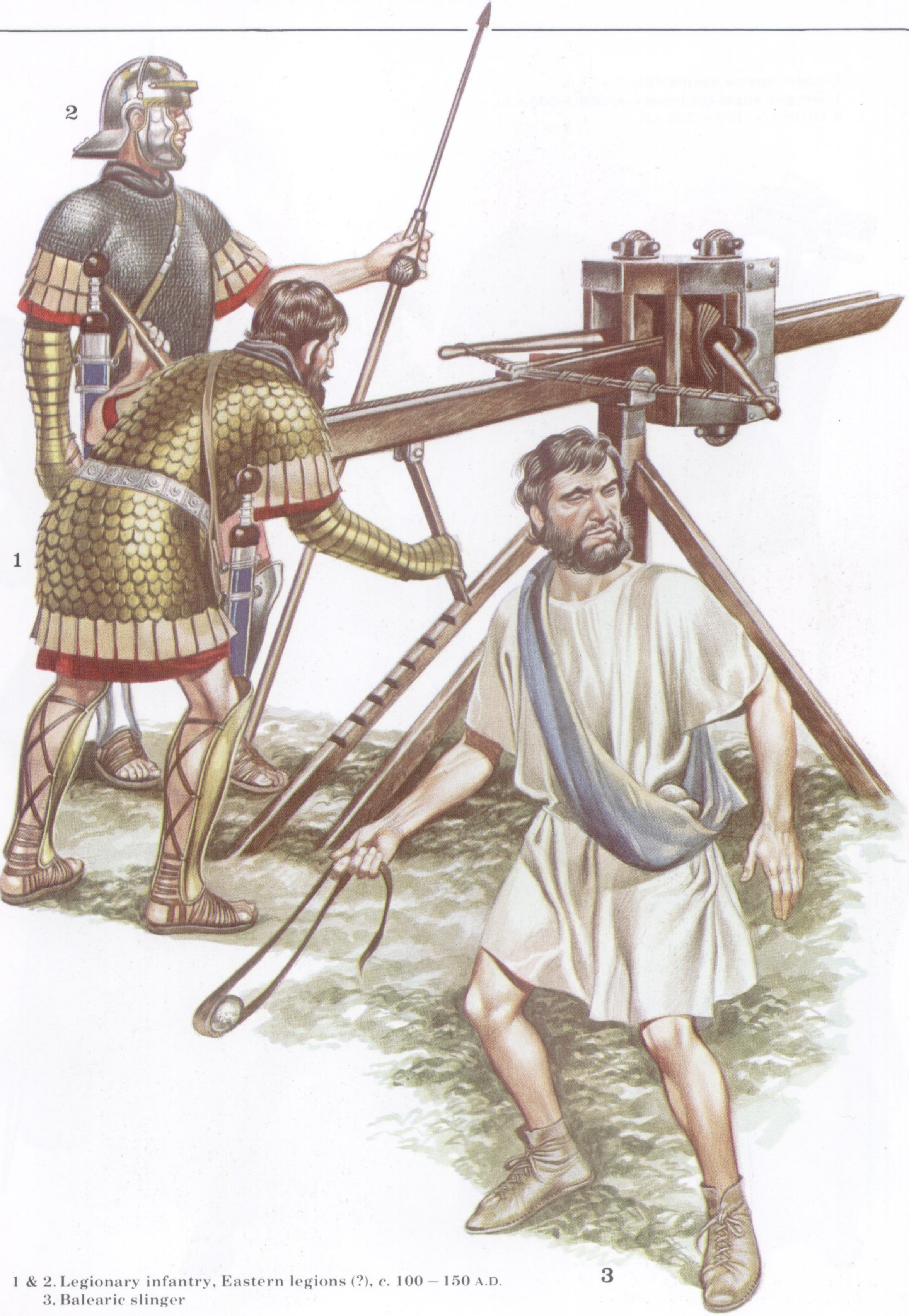
Bronze shield boss of a *capsarius*—the soldier who tended the injured on the battlefield—inscribed VERI CAPSARI LEGIONIS.



1. Legionary infantryman, *c.* 100 – 150 A.D.
2. Legionary Centurion, *c.* 100 – 200 A.D.
3. Hamian archer, *c.* 100 – 200 A.D.

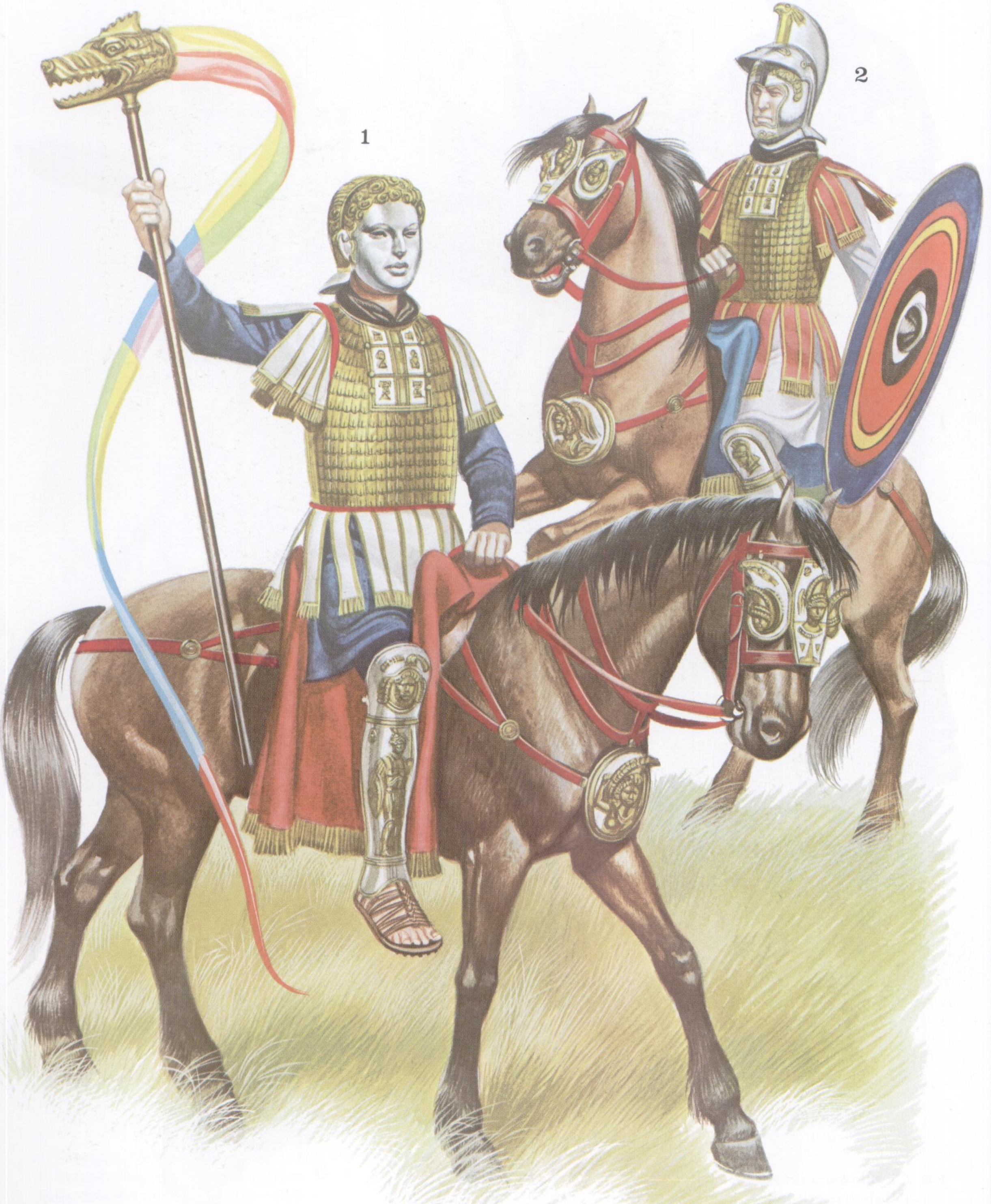


1. Trooper, Cohors Equitata, *c.* 150 A.D.
2. Infantryman, Cohors Equitata, *c.* 150 A.D.
3. Levantine archer, *c.* 100 – 200 A.D.

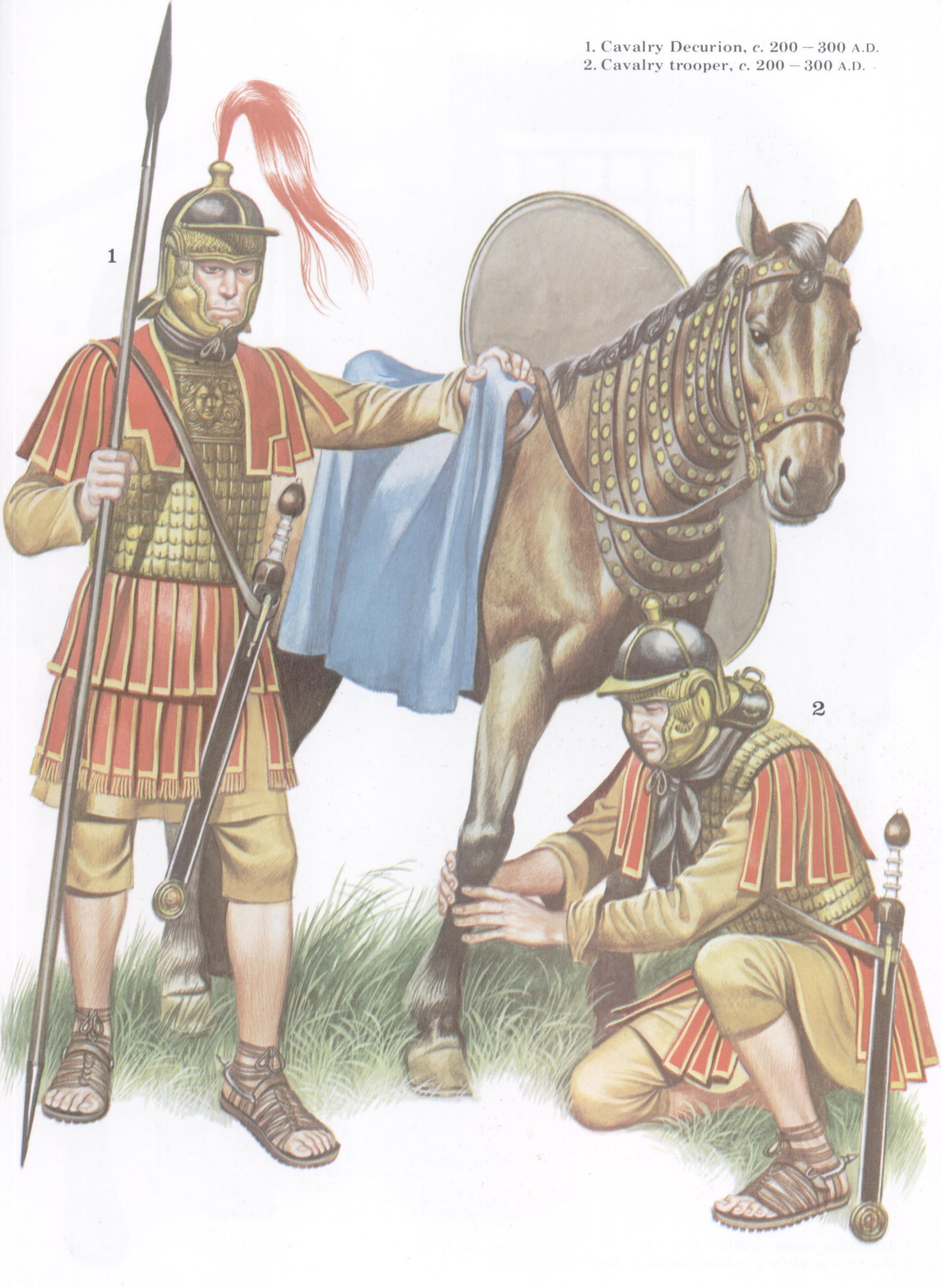


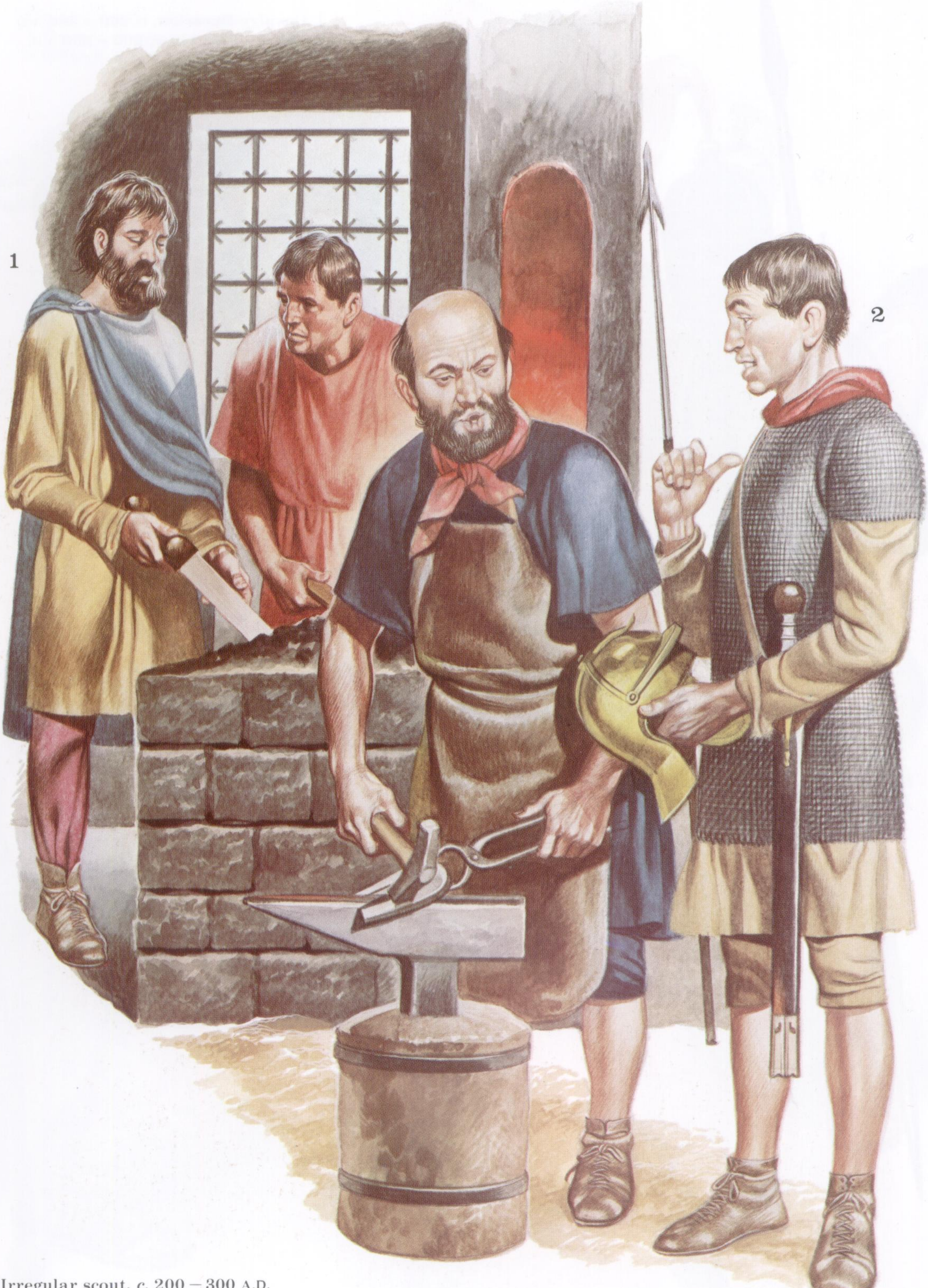
1 & 2. Legionary infantry, Eastern legions (?), *c.* 100 – 150 A.D.
3. Balearic slinger

Cavalry sports equipment:
1. Dragon standard bearer, *c.* 200 – 300 A.D.
2. Officer, *c.* 170 – 230 A.D.



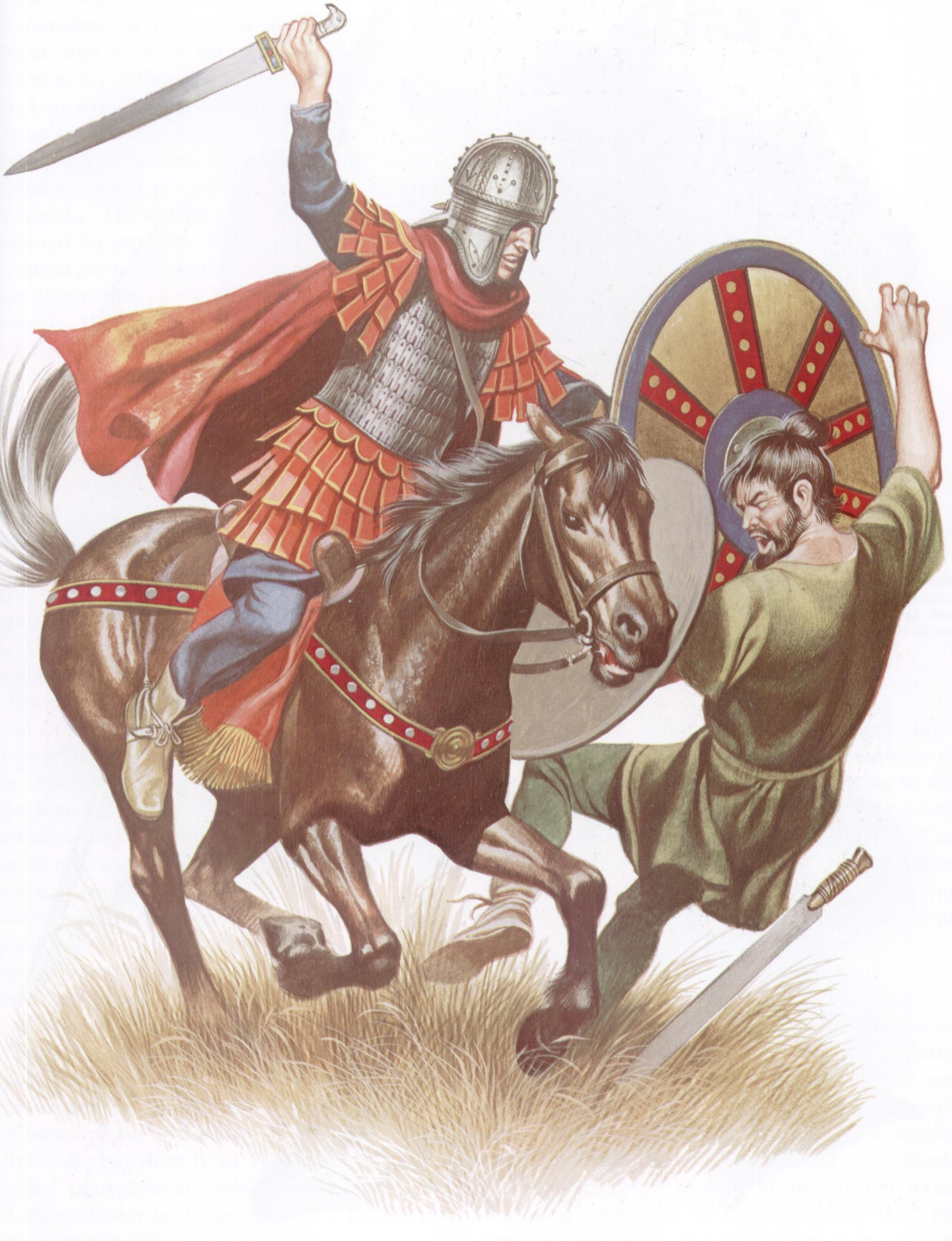
1. Cavalry Decurion, *c.* 200 – 300 A.D.
2. Cavalry trooper, *c.* 200 – 300 A.D.





1. Irregular scout, *c.* 200 – 300 A.D.
2. Raetian auxiliary infantryman, *c.* 200 – 300 A.D.

Officer, *c.* 300 — 400 A.D.



Infantrymen, *c.* 300 — 400 A.D.